Actiontec®

54 Mbps

Wireless DSL Gateway

Model #: GT704-WG

Firmware Version: 3.0.1.0.6.0-GT704-WG

User Manual

Ver 2.0

Solutions for the Digital Life™

Table of Contents

1 Introduction 1
- Package Contents 1
- Minimum System Requirements 2
- Features 2
- Getting to Know the Gateway 4

2 Setting Up the Gateway 7
- Connecting a Computer to the Gateway 7
- Installing Phone Filters 22
- Setting Up the DSL Connection 26

3 Performing a Basic Setup 33
- Basic Setup 33
- Changing the User Name and Password 35

4 Using Advanced Setup 37
- Accessing Advanced Setup 37
- WAN IP Address 38
- LAN IP Address 42
- DHCP Server 42
- Services Blocking 44
- Website Blocking 45
- Remote Management 46
- Application Layer Gateway and Port Forwarding 47
- DMZ Hosting 48
- Firewall 49
- Dynamic Routing 51
- NAT (Network Address Translation) 52
- Static Routing 52
- UPnP (Universal Plug and Play) 53
- Time Zone 53
- Remote Syslog Capture 54
- Wireless Settings 54
- Wireless MAC Authentication 58
- Wireless Advanced Settings 59

5 Viewing the Gateway's Status 61
- General Status 61
- Routing Table 63
- ARP Table 63
- WAN Status 64
- LAN Status 65
- Active User List 65

6 Using Utilities 67
- Web Activity Log 67
- System Log 68
- DSL Settings 69
- Restore Default Settings 70
- Upgrade Firmware 70

7 Setting Up a Network 71
- Ethernet 71
- USB 76
- Wireless 80

8 Troubleshooting 81
- Troubleshooting 81
- Frequently Asked Questions 82

a Reference 87
- Locating Computer Information 87
- Locating Windows Operating System Files 88

b Setting Up Static IP on the Computer 91
- Windows 98 SE 91
- Windows Me 94
- Windows 2000 97
- Windows XP 101

c Computer Security 105
- Comparing DSL Service with a Dial-Up Modem 105
- Gateway Security 106
- Computer Security 106
- Electronic Security 107

d Specifications 109
- General 109
- Wireless Operating Range 110
- LED Indicators 110
- Environmental 110

e Glossary 111

f Non-Windows System Setup 115
- Classic 115
- OS X 117

Notices 119
- Regulatory Compliance Notices 119
- Modifications 119
- Miscellaneous Legal Notices 120

Limited Warranty 121

Introduction 1

Thank you for purchasing the Actiontec 54 Mbps Wireless DSL Gateway. The Gateway is the simplest way to connect computers to a high-speed broadband connection. This easy-to-use product is perfect for the home office or small business. If you want to take your computing to the next level, the Actiontec 54 Mbps Wireless DSL Gateway is sure to be one of the keys to your success.

Package Contents

- Actiontec 54 Mbps Wireless DSL Gateway
- Power cord
- Phone filters
- DSL cable
- Yellow (Ethernet) cable
- Blue (USB) cable
- Installation CD
- Quick start guide
- Start here guide
- Wireless start here guide
- Technical support card

Minimum System Requirements

- Active DSL service
- Computer with a 10/100 Mbps Ethernet connection, or USB connection
- Microsoft Windows 98 Second Edition (SE), Windows Millennium Edition (Me), Windows NT 4.0, Windows 2000, Windows XP, Mac OS 7.1 and above

☞ ***Note***: USB LAN port is not supported with Microsoft Windows NT 4.0 or any Mac OS.

- Internet Explorer 4.0 or higher (5.x recommended) or Netscape Navigator 4.0 or higher (4.7 recommended)
- TCP/IP network protocol installed on each computer

Features

- Plug-and-Play installation support for systems with Windows operating systems (98, 98SE, Me, 2000, and XP)
- ADSL WAN port (RJ-11)
- Compliant with full-rate ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt) and G.992.2 (G.lite) standard
- Auto-handshake for different ADSL flavors
- USB 1.1 device specification compliance
- 12 Mbps USB data rate (full speed)
- Multiprotocol Encapsulation over ATM, PPP over ATM, PPP over Ethernet
- Precise ATM traffic shaping
- IP packet routing and transparent bridging
- Routing protocol supports RIP-1, RIP-2, static routing
- Built-in NAT, DHCP server

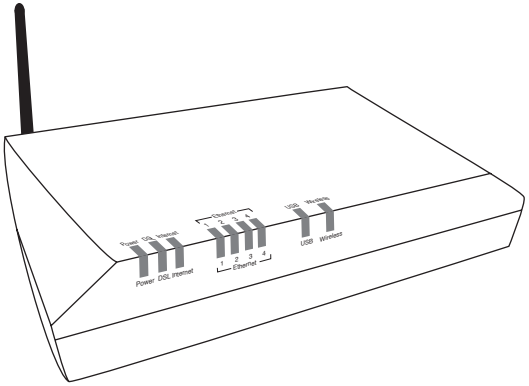
- DNS relay support
- PAP/CHAP authentication, administrative passwords through Telnet and HTTP
- 64-, 128-, and 256-bit WEP/WPA wireless LAN security
- Compliant with IEEE 802.3 Ethernet standard
- 10/100 Base-T Ethernet ports (4)
- Flow control support for Fast Ethernet
- Web-based configuration setup
- Default configuration backup restore
- FTP upgradeable
- Web download support
- 802.11b/g support

Getting to Know the Gateway

This section contains a quick description of the Gateway's lights, ports, etc. The Gateway contains several indicator lights (LEDs) on its front panel and a series of ports on its rear panel.

Front Panel

The front panel of the Gateway features nine lights: Power, DSL, Internet, Ethernet (4), USB, and Wireless.



Power Light

The Power light displays the Gateway's current status. If the Power light glows steadily green, the Gateway is receiving power and fully operational. When the Power light flashes rapidly, the Gateway is initializing. If the Power light is not illuminated when the Power cord is plugged in and the Power switch is turned on, the Gateway has suffered a critical error and technical support should be contacted.

DSL Light

The DSL light illuminates when the Gateway is connected to a DSL (Digital Subscriber Line) line. When it flashes, the Gateway's built-in DSL modem is training for DSL service.

Internet Light

When the Internet light glows steadily, the Gateway is connected to the DSL provider.

Ethernet Lights

The Ethernet lights illuminate when the Gateway is connected via one or more of its Ethernet ports.

USB Light

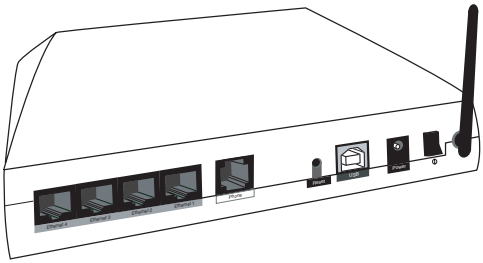
The USB light illuminates when the Gateway is connected via its USB port.

Wireless Light

The Wireless light illuminates when the Gateway is activated for wireless use.

Rear Panel

The rear panel of the Gateway contains seven ports (Ethernet [4], Phone, USB, and Power), as well as Reset and Power switches.



Phone Port

The Phone port is used to connect the Gateway to a DSL connection.

USB Port

The USB port is used to connect a computer to the Gateway via USB cable.

Ethernet Ports

The Ethernet ports are used to connect computers to the Gateway via Ethernet cable. The Ethernet ports are 10/100 Mbps auto-sensing ports, and either a straight-through or crossover Ethernet cable can be used when connecting to the ports.

Reset Switch

Depressing the Reset switch for one or two seconds will power cycle the Gateway (similar to unplugging and then plugging in the Gateway's Power cord). To restore the Gateway's factory default settings, depress and hold the Reset switch for approximately 10 seconds. The reset process will start about 10 seconds after releasing the switch.

Power Port

The Power port is used to connect the Power cord to the Gateway.

Warning: Do not unplug the Power cord from the Gateway during the reset process. Doing so may result in permanent damage to the Gateway.

Power Switch

The Power switch is used to power the Gateway on and off.

Setting Up the Gateway

2

The instructions that follow parallel the steps contained in the Actiontec Installation Buddy™, which provides a visual guide to setting up the Gateway. It is recommended the user run the Installation Buddy first, before attempting any other procedures.

To set up the Gateway, it must be connected to a computer, and then configured. After connecting this first computer, other computers can be added to the network via USB, Ethernet, or wirelessly (see "Setting Up a Network" on page 71).

Connecting a Computer to the Gateway

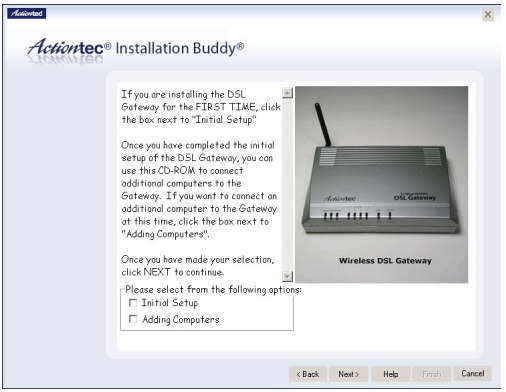
Connecting a computer to the Gateway for setup involves three basic steps: initial setup, plugging in the Gateway's power cord, and connecting the Gateway to the computer.

Connecting Via Ethernet

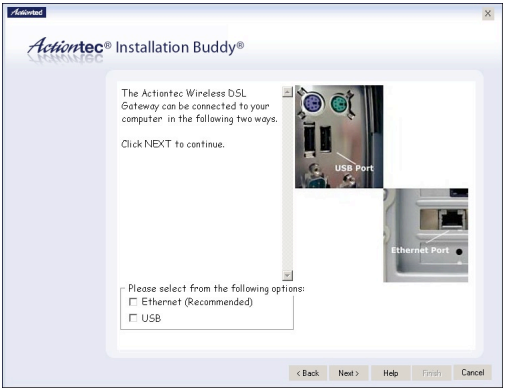
1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

Actiontec® Installation Buddy®
Welcome to the Actiontec Installation Buddy!
This Buddy will be your step-by-step guide during the installation process.
Click NEXT to begin.
HI! I'm YOUR INSTALLATION BUDDY. I'LL BE AROUND TO HELP YOU OUT...
< Back
Next >
Help
Finish
Cancel

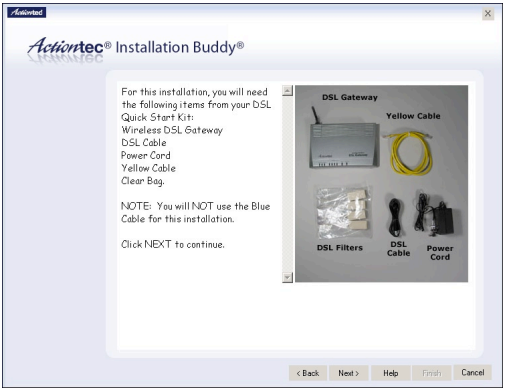
2. Read the instructions, select **Initial Setup** by clicking on the appropriate check box, then click **Next**.


Actiontec® Installation Buddy®
If you are installing the DSL Gateway for the FIRST TIME, click the box next to "Initial Setup"
Once you have completed the initial setup of the DSL Gateway, you can use this CD-ROM to connect additional computers to the Gateway. If you want to connect an additional computer to the Gateway at this time, click the box next to "Adding Computers".
Once you have made your selection, click NEXT to continue.
Wireless DSL Gateway
Please select from the following options:
Initial Setup
Adding Computers
< Back
Next >
Help
Finish
Cancel

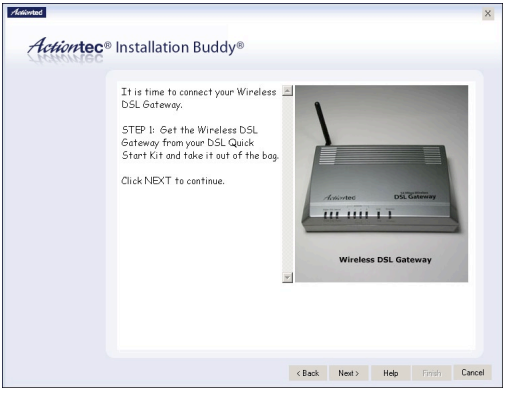
3. Click in the check box next to **Ethernet (Recommended)**, then click **Next**.



4. Make sure the items needed to connect the Gateway to the first computer are included in the kit, then click **Next**.



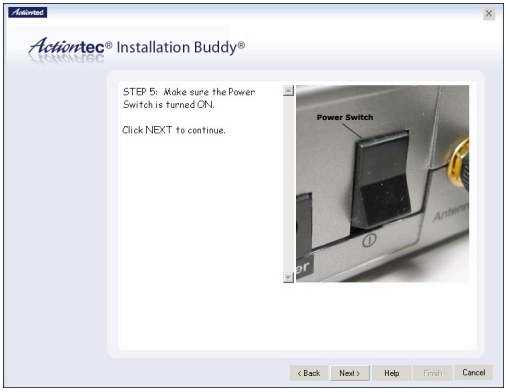
5. Get the **Gateway** from the kit, then click **Next**.


Actiontec® Installation Buddy®
It is time to connect your Wireless DSL Gateway.
STEP 1: Get the Wireless DSL Gateway from your DSL Quick Start Kit and take it out of the bag.
Click NEXT to continue.
Wireless DSL Gateway
< Back
Next >
Help
Finish
Cancel

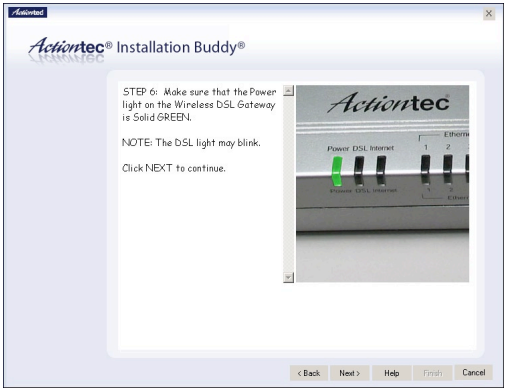
6. Get the **Power cord** and plug the smaller end into the **black Power port** on the rear panel of the Gateway, then click **Next**.

7. Plug the larger end of the **Power cord** into a **power outlet**, then click **Next**.

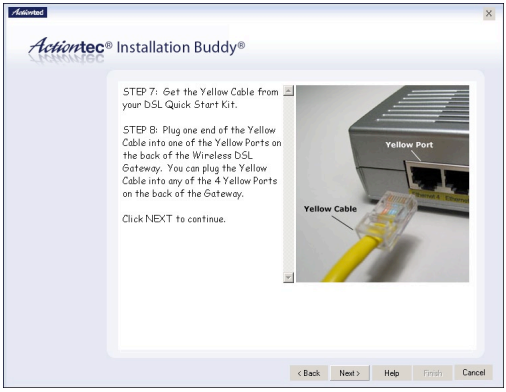
8. Click the **On/Off switch** to its on position (as shown in the picture on-screen), then click **Next**.



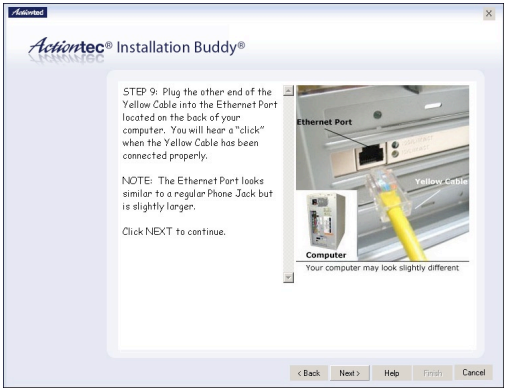
9. Confirm the **Power light** on the front of the Gateway **glows solid green**, then click **Next**.


Actiontec® Installation Buddy®
STEP 6: Make sure that the Power light on the Wireless DSL Gateway is Solid GREEN.
NOTE: The DSL light may blink.
Click NEXT to continue.
Actiontec
Power DSL Internet
< Back
Next >
Help
Finish
Cancel

10. Get the **yellow Ethernet cable** from the kit and plug one end into a **yellow Ethernet port** on the back of the Gateway, then click **Next**.


Actiontec® Installation Buddy®
STEP 7: Get the Yellow Cable from your DSL Quick Start Kit.
STEP 8: Plug one end of the Yellow Cable into one of the Yellow Ports on the back of the Wireless DSL Gateway. You can plug the Yellow Cable into any of the 4 Yellow Ports on the back of the Gateway.
Click NEXT to continue.
Yellow Port
Yellow Cable
< Back
Next >
Help
Finish
Cancel

11. Plug the other end of the **yellow Ethernet cable** into an **Ethernet port** on the back of the computer. Click **Next**.

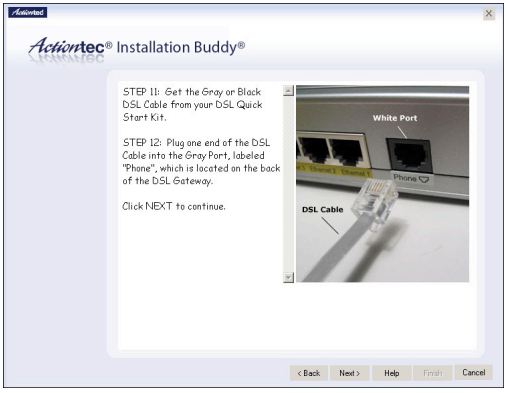

Actiontec® Installation Buddy®
STEP 9: Plug the other end of the Yellow Cable into the Ethernet Port located on the back of your computer. You will hear a "click" when the Yellow Cable has been connected properly.
NOTE: The Ethernet Port looks similar to a regular Phone Jack but is slightly larger.
Click NEXT to continue.
Ethernet Port
Yellow Cable
Computer
Your computer may look slightly different
< Back
Next >
Help
Finish
Cancel

☞ ***Note***: An Ethernet port looks similar to a phone jack, but is slightly larger.

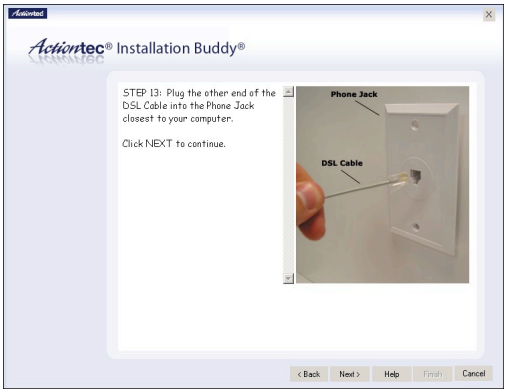
12. Make sure one of the **Ethernet lights** on the front of the Gateway **glows solid green**. Click **Next**.

Actiontec® Installation Buddy®
STEP 10: Make sure that 1 of the 4 Ethernet lights on the DSL Gateway is GREEN. This may take a few moments.
NOTE: If one of the Ethernet lights does NOT turn green, make sure the Yellow Cable is properly connected on both ends.
Click NEXT to continue.
Actiontec
Power DSL Internet
Ethernet
1 2 3 4
< Back
Next >
Help
Finish
Cancel

13. Get the **black or gray DSL cable** from the kit and plug one end into the **gray Line port** on the rear panel of the Gateway. Click **Next**.


Actiontec® Installation Buddy®
STEP 11: Get the Gray or Black DSL Cable from your DSL Quick Start Kit.
STEP 12: Plug one end of the DSL Cable into the Gray Port, labeled "Phone", which is located on the back of the DSL Gateway.
Click NEXT to continue.
White Port
Phone
DSL Cable
< Back
Next >
Help
Finish
Cancel

14. Plug the other end of the **black or gray DSL cable** into the **phone jack** closest to the computer. Click **Next**.


Actiontec® Installation Buddy®
STEP 13: Plug the other end of the DSL Cable into the Phone Jack closest to your computer.
Click NEXT to continue.
Phone Jack
DSL Cable
< Back
Next >
Help
Finish
Cancel

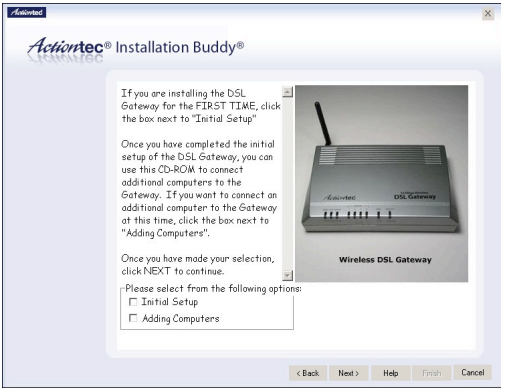
The Gateway is connected to a computer via Ethernet. Next, install the filters as described in "Installing Filters" on page 22.

Connecting Via USB

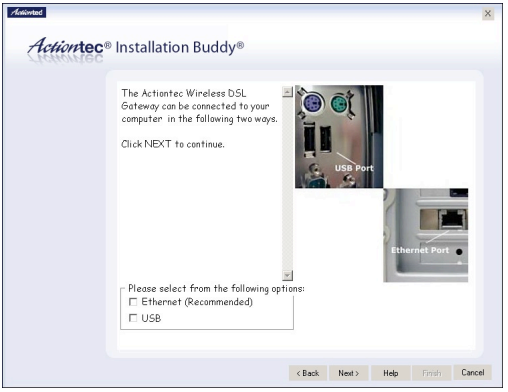
1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

Actiontec® Installation Buddy®
Welcome to the Actiontec Installation Buddy!
This Buddy will be your step-by-step guide during the installation process.
Click NEXT to begin.
HI! I'm YOUR INSTALLATION BUDDY. I'LL BE AROUND TO HELP YOU OUT...
Buddy
< Back
Next >
Help
Finish
Cancel

2. Read the instructions, select **Initial Setup** by clicking on the appropriate check box, then click **Next**.

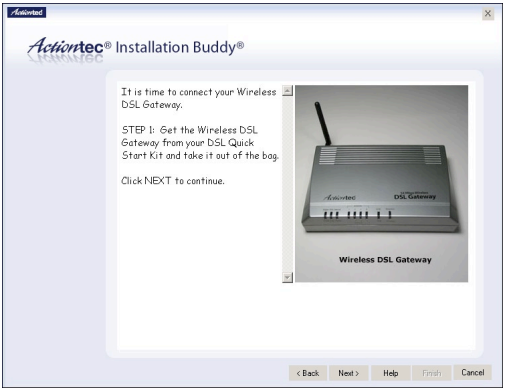

Actiontec® Installation Buddy®
If you are installing the DSL Gateway for the FIRST TIME, click the box next to "Initial Setup"
Once you have completed the initial setup of the DSL Gateway, you can use this CD-ROM to connect additional computers to the Gateway. If you want to connect an additional computer to the Gateway at this time, click the box next to "Adding Computers".
Once you have made your selection, click NEXT to continue.
Wireless DSL Gateway
Please select from the following options:
Initial Setup
Adding Computers
< Back
Next >
Help
Finish
Cancel

3. Click the check box next to **USB**, then click **Next**.



4. Make sure the items needed to connect the Gateway to the first computer are included in the kit, then click **Next**.

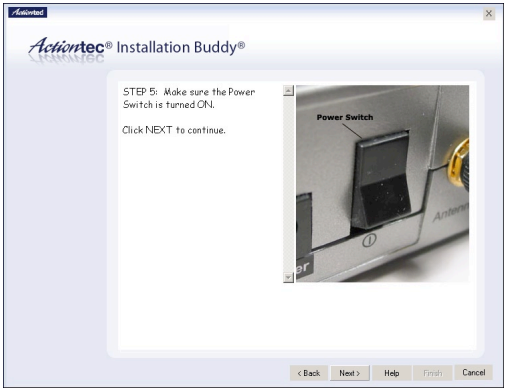
5. Get the **Gateway** from the kit, then click **Next**.


Actiontec® Installation Buddy®
It is time to connect your Wireless DSL Gateway.
STEP 1: Get the Wireless DSL Gateway from your DSL Quick Start Kit and take it out of the bag.
Click NEXT to continue.
Wireless DSL Gateway
< Back
Next >
Help
Finish
Cancel

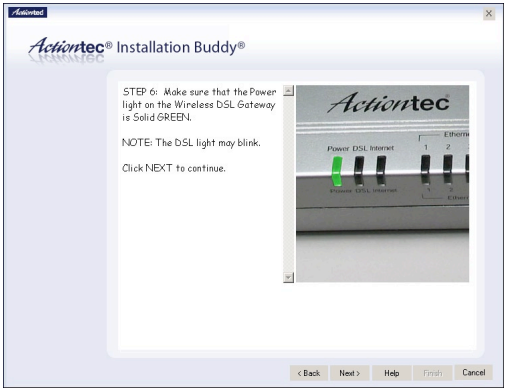
6. Get the **Power cord** and plug the smaller end into the **black Power port** on the rear panel of the Gateway, then click **Next**.

7. Plug the larger end of the **Power cord** into a **power outlet**, then click **Next**.

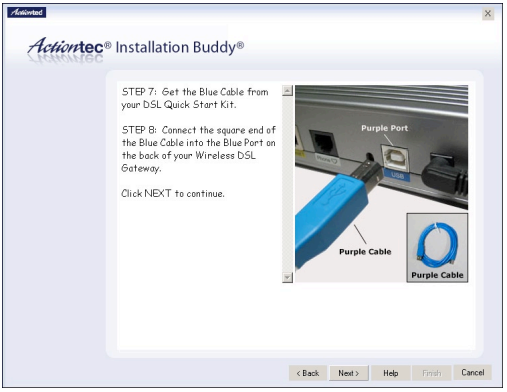
8. Click the **On/Off switch** to its on position (as shown in the picture on-screen), then click **Next**.



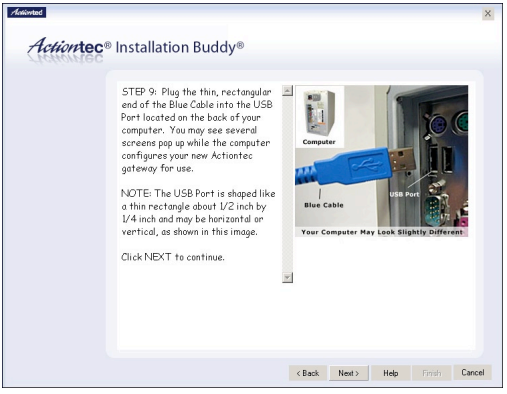
9. Confirm the **Power light** on the front of the Gateway **glows solid green**, then click **Next**.


Actiontec® Installation Buddy®
STEP 6: Make sure that the Power light on the Wireless DSL Gateway is Solid GREEN.
NOTE: The DSL light may blink.
Click NEXT to continue.
Actiontec
Power DSL Internet
< Back
Next >
Help
Finish
Cancel

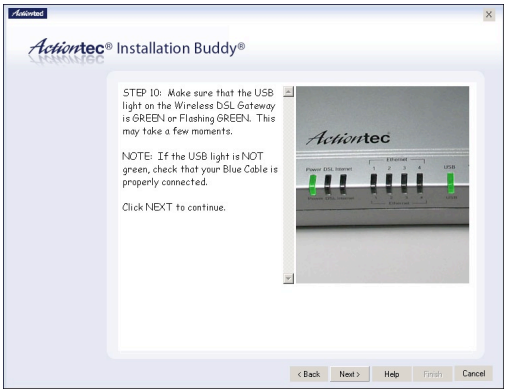
10. Get the **blue USB cable** from the kit and plug the square end into the **blue USB port** on the back of the Gateway, then click **Next**.


Actiontec® Installation Buddy®
STEP 7: Get the Blue Cable from your DSL Quick Start Kit.
STEP 8: Connect the square end of the Blue Cable into the Blue Port on the back of your Wireless DSL Gateway.
Click NEXT to continue.
Purple Port
Purple Cable
Purple Cable
< Back
Next >
Help
Finish
Cancel

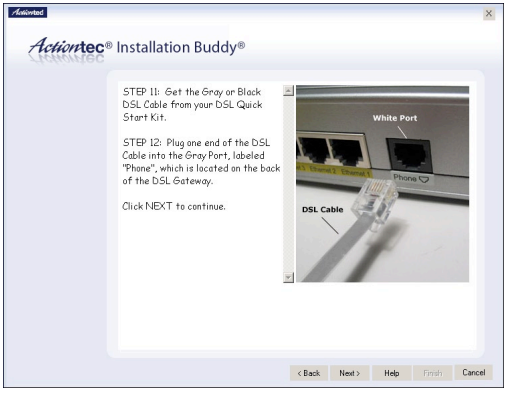
11. Plug the rectangular end of the **blue USB cable** into an **USB port** on the front or back of the computer. Click **Next**.


Actiontec® Installation Buddy®
STEP 9: Plug the thin, rectangular end of the Blue Cable into the USB Port located on the back of your computer. You may see several screens pop up while the computer configures your new Actiontec gateway for use.
NOTE: The USB Port is shaped like a thin rectangle about 1/2 inch by 1/4 inch and may be horizontal or vertical, as shown in this image.
Click NEXT to continue.
Computer
Blue Cable
USB Port
Your Computer May Look Slightly Different
< Back
Next >
Help
Finish
Cancel

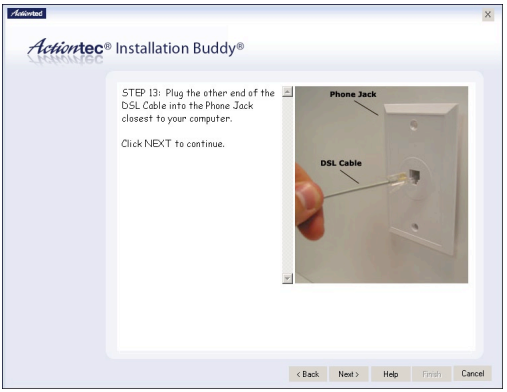
12. Make sure the **USB light** on the front of the Gateway **glows solid green**. Click **Next**.


Actiontec® Installation Buddy®
STEP 10: Make sure that the USB light on the Wireless DSL Gateway is GREEN or Flashing GREEN. This may take a few moments.
NOTE: If the USB light is NOT green, check that your Blue Cable is properly connected.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel

13. Get the **black or gray DSL cable** from the kit and plug one end into the **gray Line port** on the rear panel of the Gateway. Click **Next**.


Actiontec® Installation Buddy®
STEP 11: Get the Gray or Black DSL Cable from your DSL Quick Start Kit.
STEP 12: Plug one end of the DSL Cable into the Gray Port, labeled "Phone", which is located on the back of the DSL Gateway.
Click NEXT to continue.
White Port
Phone
DSL Cable
< Back
Next >
Help
Finish
Cancel

14. Plug the other end of the **black or gray DSL cable** into the **phone jack** closest to the computer. Click **Next**.


Actiontec® Installation Buddy®
STEP 13: Plug the other end of the DSL Cable into the Phone Jack closest to your computer.
Click NEXT to continue.
Phone Jack
DSL Cable
< Back
Next >
Help
Finish
Cancel

The Gateway is connected to a computer via USB. Next, install the filters as described in "Installing Filters," below.

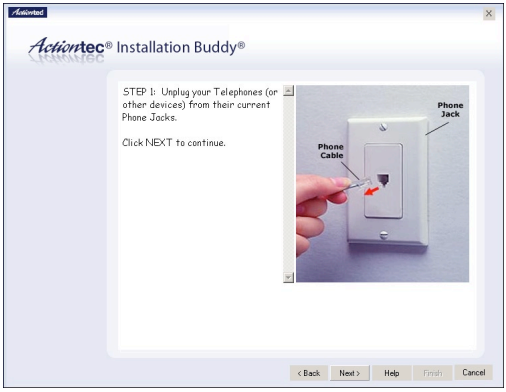
Installing Phone Filters

Phone filters allow the use of the telephone while online. All telephones and other devices (answering machines, fax machines, etc.) using the same phone line (i.e., using the same phone number) as the DSL line must have a phone filter installed. To install a phone filter:

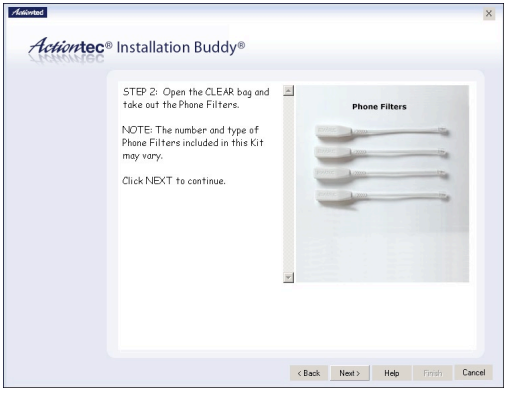
1. Read the on-screen information, then click **Next**.

Actiontec® Installation Buddy®
Now you are going to connect the Phone Filters.
What are Phone Filters? Phone Filters separate the DSL Signal from your voice signal so that you can talk on the Phone and be online at the same time.
ALL PHONES with the same number as your DSL Line will require Phone Filters. This includes phones, fax machines, caller ID boxes, satellite TV receivers and answering machines.
Phone Filters
< Back
Next >
Help
Finish
Cancel

2. Read the on-screen information, then unplug all telephones and other devices from their respective phone jacks. Click **Next**.



3. Get the **phone filters**. Click **Next**.

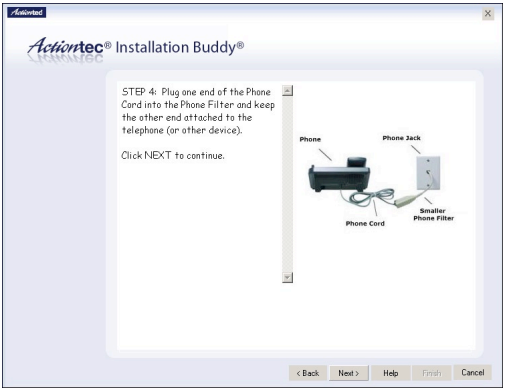

Actiontec® Installation Buddy®
STEP 2: Open the CLEAR bag and take out the Phone Filters.
NOTE: The number and type of Phone Filters included in this Kit may vary.
Click NEXT to continue.
Phone Filters
< Back
Next >
Help
Finish
Cancel

Caution: **Do not** unplug the black or gray DSL cable from the phone jack near your computer.

4. Plug a **phone filter** into every **phone jack** with a telephone or other device connected to it, then click **Next**.

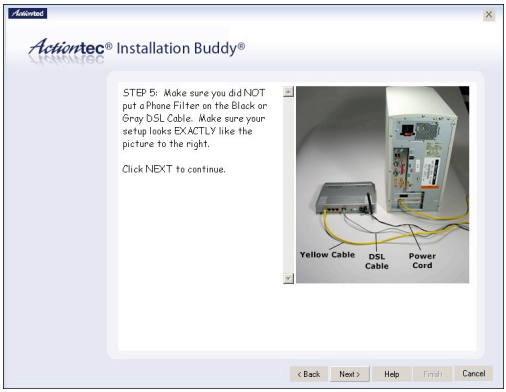
Actiontec® Installation Buddy®
STEP 3: Plug a Phone Filter into every Phone Jack in your house with the same phone number as your DSL Line, and a telephone (or other device) connected to it.
NOTE: If you need additional Phone Filters, contact your DSL Internet Service Provider.
Click NEXT to continue.
Phone Jack
Phone Filter
< Back
Next >
Help
Finish
Cancel

5. Plug the ends of the phone lines disconnected in step 2 into the phone filters plugged into phone jacks. Click **Next**.

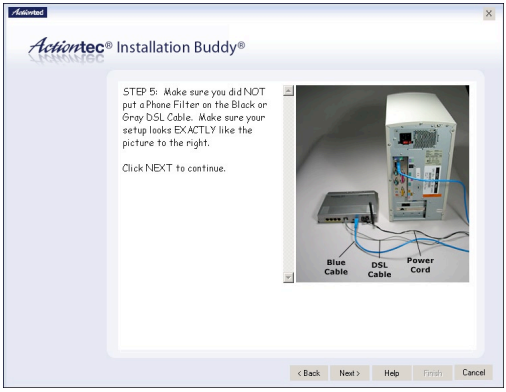

Actiontec® Installation Buddy®
STEP 4: Plug one end of the Phone Cord into the Phone Filter and keep the other end attached to the telephone (or other device).
Click NEXT to continue.
Phone
Phone Jack
Phone Cord
Smaller Phone Filter
< Back
Next >
Help
Finish
Cancel

Caution: **Do not** plug a phone filter in the phone jack in which the black or gray DSL cable is plugged.

6. Read the on-screen instructions, and make sure the Gateway is connected exactly as shown, depending on whether the Gateway is connected via Ethernet or USB.
Ethernet connection setup:

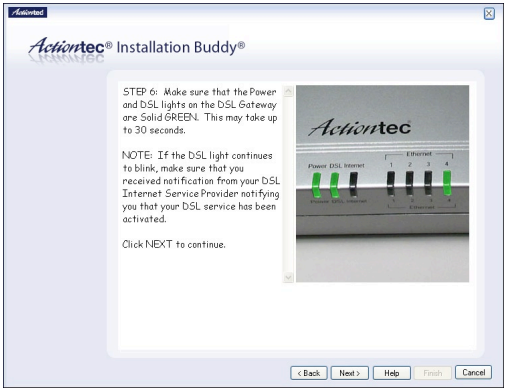

Actiontec
Actiontec® Installation Buddy®
STEP 5: Make sure you did NOT put a Phone Filter on the Black or Gray DSL Cable. Make sure your setup looks EXACTLY like the picture to the right.
Click NEXT to continue.
Yellow Cable
DSL Cable
Power Cord
< Back
Next >
Help
Finish
Cancel

USB connection setup:

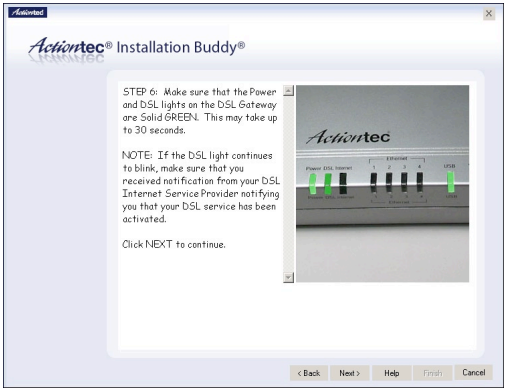

Actiontec
Actiontec® Installation Buddy®
STEP 5: Make sure you did NOT put a Phone Filter on the Black or Gray DSL Cable. Make sure your setup looks EXACTLY like the picture to the right.
Click NEXT to continue.
Blue Cable
DSL Cable
Power Cord
< Back
Next >
Help
Finish
Cancel

Click **Next**.

7. Make sure the DSL light on the Gateway **glows solid green** (this may take a few moments), then click **Next**.
Ethernet:


Actiontec® Installation Buddy®
STEP 6: Make sure that the Power and DSL lights on the DSL Gateway are Solid GREEN. This may take up to 30 seconds.
NOTE: If the DSL light continues to blink, make sure that you received notification from your DSL Internet Service Provider notifying you that your DSL service has been activated.
Click NEXT to continue.
Actiontec
< Back
Next >
Help
Finish
Cancel

USB:

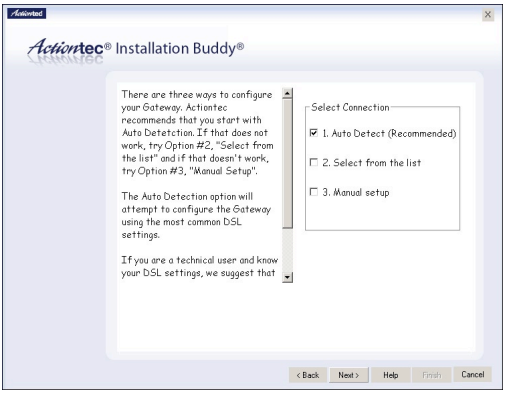

Actiontec® Installation Buddy®
STEP 6: Make sure that the Power and DSL lights on the DSL Gateway are Solid GREEN. This may take up to 30 seconds.
NOTE: If the DSL light continues to blink, make sure that you received notification from your DSL Internet Service Provider notifying you that your DSL service has been activated.
Click NEXT to continue.
Actiontec
< Back
Next >
Help
Finish
Cancel

Next, go to "Setting Up the DSL Connection" on the next page.

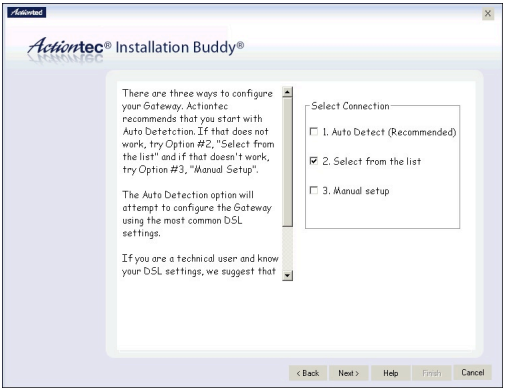
Setting Up the DSL Connection

After connecting the Gateway and installing phone filters, the DSL connection must be configured. To do this:

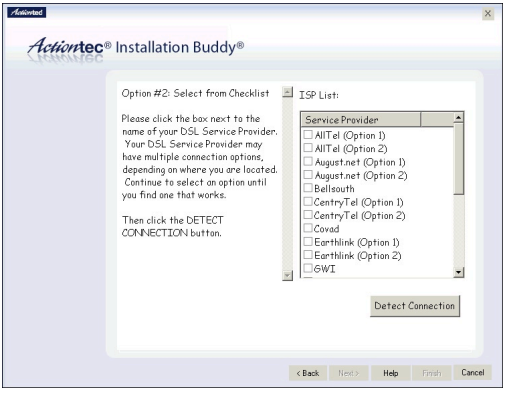
1. Select one of the options in the "Select Connection" box: **Auto Detect**, **Select from the list**, or **Manual Setup**.
   Auto Detect - if selected, click **Next**. The DSL connection is automatically detected, and a series of informational screens will be displayed while the Gateway searches for the connection. If successful, go to step 2. If unsuccessful, go to **Select from the list**, below.


Actiontec® Installation Buddy®
There are three ways to configure your Gateway. Actiontec recommends that you start with Auto Detetction. If that does not work, try Option #2, "Select from the list" and if that doesn't work, try Option #3, "Manual Setup".
The Auto Detection option will attempt to configure the Gateway using the most common DSL settings.
If you are a technical user and know your DSL settings, we suggest that
Select Connection
1. Auto Detect (Recommended)
2. Select from the list
3. Manual setup
< Back
Next >
Help
Finish
Cancel

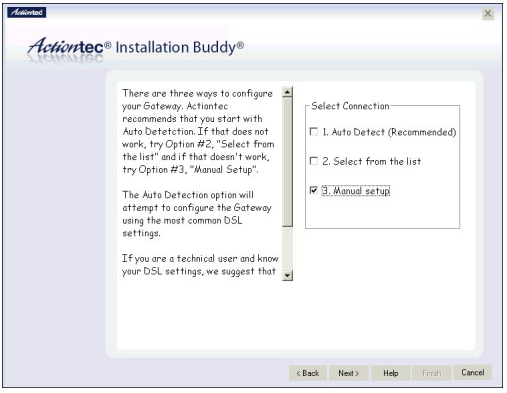
   Select from the list - If Auto Detect is not successful, or the user knows which ISP to connect to, click in the "Select from the list" box, then click **Next**.


Actiontec® Installation Buddy®
There are three ways to configure your Gateway. Actiontec recommends that you start with Auto Detetction. If that does not work, try Option #2, "Select from the list" and if that doesn't work, try Option #3, "Manual Setup".
The Auto Detection option will attempt to configure the Gateway using the most common DSL settings.
If you are a technical user and know your DSL settings, we suggest that
Select Connection
1. Auto Detect (Recommended)
2. Select from the list
3. Manual setup
< Back
Next >
Help
Finish
Cancel

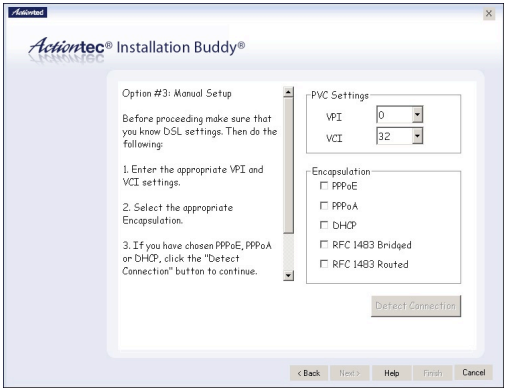
In the next window, select the ISP being used from the list box on the left (scroll down for more choices), then click **Next**. A series of informational screens will display while the Gateway searches for the connection. If the connection is successful, go to step 2. If not, go to "Manual Setup," below.


Actiontec® Installation Buddy®
Option #2: Select from Checklist
Please click the box next to the name of your DSL Service Provider. Your DSL Service Provider may have multiple connection options, depending on where you are located. Continue to select an option until you find one that works.
Then click the DETECT CONNECTION button.
ISP List:
Service Provider
AllTel (Option 1)
AllTel (Option 2)
August.net (Option 1)
August.net (Option 2)
Bellsouth
CentryTel (Option 1)
CentryTel (Option 2)
Covad
Earthlink (Option 1)
Earthlink (Option 2)
GWI
Detect Connection
< Back
Next >
Help
Finish
Cancel

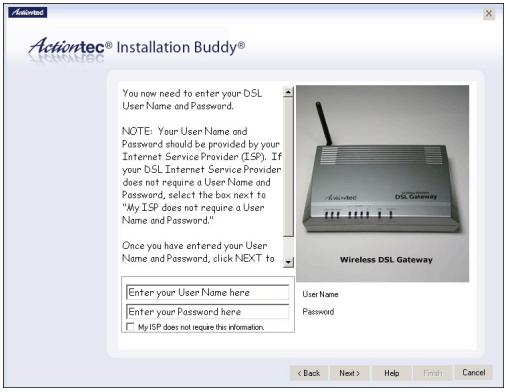
Manual Setup - If the Auto Detect and Select from a list are not successful, or the user knows how to configure VPI/VCI and Encapsulation settings, click in the "Manual Setup" box, then click **Next**.


Actiontec® Installation Buddy®
There are three ways to configure your Gateway. Actiontec recommends that you start with Auto Detetction. If that does not work, try Option #2, "Select from the list" and if that doesn't work, try Option #3, "Manual Setup".
The Auto Detection option will attempt to configure the Gateway using the most common DSL settings.
If you are a technical user and know your DSL settings, we suggest that
Select Connection
1. Auto Detect (Recommended)
2. Select from the list
3. Manual setup
< Back
Next >
Help
Finish
Cancel

In the next window, enter the VPI/VCI and Encapsulation settings (the ISP should provide these) then click **Next**.



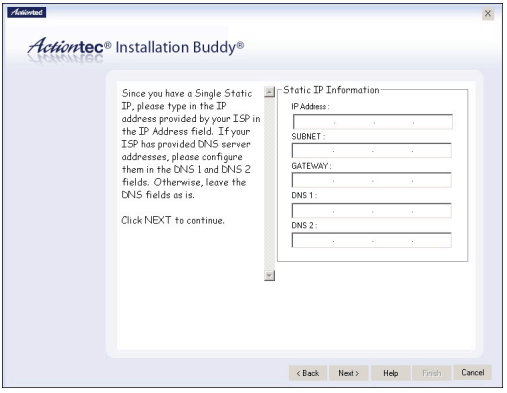
2. If PPPoE or PPPoA was selected, enter the user name and password in the appropriate text boxes (or click the check box next to "My ISP does not require this information."), then click **Next**.


Actiontec® Installation Buddy®
You now need to enter your DSL User Name and Password.
NOTE: Your User Name and Password should be provided by your Internet Service Provider (ISP). If your DSL Internet Service Provider does not require a User Name and Password, select the box next to "My ISP does not require a User Name and Password."
Once you have entered your User Name and Password, click NEXT to
Wireless DSL Gateway
Enter your User Name here
Enter your Password here
My ISP does not require this information.
User Name
Password
< Back
Next >
Help
Finish
Cancel

3. Select the appropriate IP type. This information should be provided by the ISP. When finished, click **Next**.
If **Static IP** is selected, go to step 4.
If **Dynamic IP (DHCP)** is selected, go to step 5.

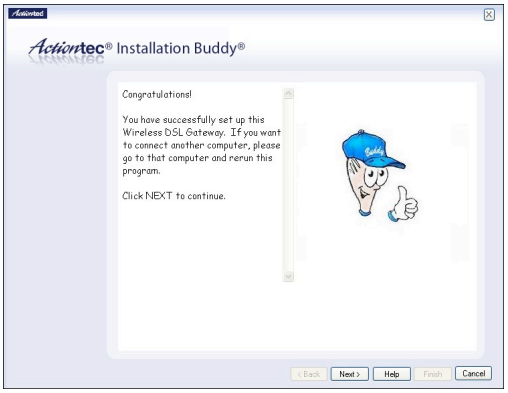
Actiontec® Installation Buddy®
Please select from the following IP types. The IP type will be provided by your DSL Internet Service Provider. Since most ISPs use the "Dynamic" setting, Actiontec recommends that you select "Dynamic IP" unless you have been told otherwise by your ISP.
Click NEXT to continue.
Wireless DSL Gateway
IP Type:
Static IP
Dynamic IP (Recommended)
< Back
Next >
Help
Finish
Cancel

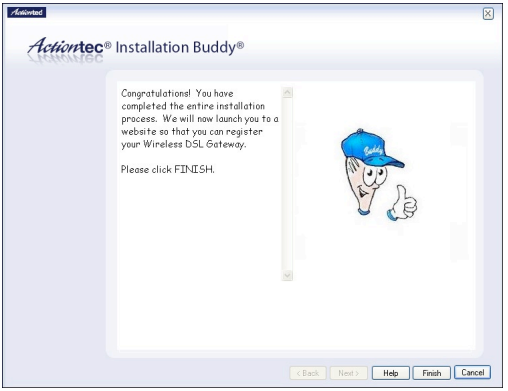
4. In the next window, enter the **IP Address**, **Subnet**, **Gateway**, **DNS 1**, and **DNS 2** information (if applicable) in the proper text boxes. When finished, click **Next**.


Actiontec® Installation Buddy®
Since you have a Single Static IP, please type in the IP address provided by your ISP in the IP Address field. If your ISP has provided DNS server addresses, please configure them in the DNS 1 and DNS 2 fields. Otherwise, leave the DNS fields as is.
Click NEXT to continue.
Static IP Information
IP Address :
SUBNET :
GATEWAY :
DNS 1 :
DNS 2 :
< Back
Next >
Help
Finish
Cancel

5. When the configuration is complete, a series of congratulations windows appears. Read the on-screen information, then click through the next few windows to exit the Installation Buddy.

Actiontec® Installation Buddy®
Did you know that with this new Wireless DSL Gateway, you can enable EVERY computer in your home to access the Internet?
The Wireless Home
Wireless DSL Gateway
< Back
Next >
Help
Finish
Cancel


Actiontec® Installation Buddy®
Congratulations!
You have successfully set up this Wireless DSL Gateway. If you want to connect another computer, please go to that computer and rerun this program.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel


Actiontec® Installation Buddy®
Congratulations! You have completed the entire installation process. We will now launch you to a website so that you can register your Wireless DSL Gateway.
Please click FINISH.
< Back
Next >
Help
Finish
Cancel

The Gateway is successfully configured and ready for use.

To make changes to the Gateway's Advanced Configuration settings, see Chapter 4, "Using Advanced Setup."

To create a network by connecting more computers to the Gateway, see Chapter 7, "Setting Up a Network."

This page left intentionally blank.

Performing a Basic Setup

3

This chapter is a guide through a basic configuration setup of the Gateway for users who did NOT use the Actiontec Installation Buddy® to setup the Gateway. The basic setup includes instructions on how to connect the Gateway to the ISP and change the user name and password.
To complete a basic setup, the user will need information provided by the ISP and access the Gateway's Web Configurator. This information from the ISP is sometimes contained in a welcome letter or ISP worksheet. If this document is not available, contact the ISP immediately and request one.

Basic Setup

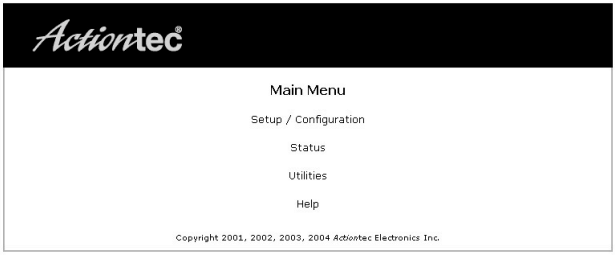
☞ ***Note:*** If you already set up the Gateway using the Installation Buddy (as described in Chapter 2, "Setting Up the Gateway"), the settings described in this section have already been configured. Please continue to chapter 4, "Using Advanced Setup," to configure the advanced settings of the Gateway.

1. Open a Web browser. In the "Address" text box, type

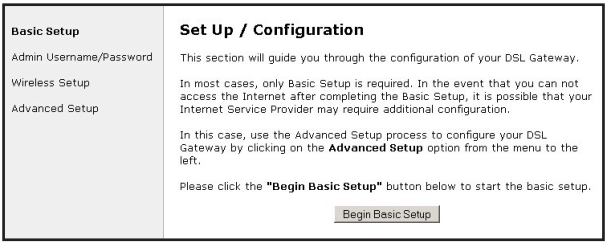
`http://192.168.0.1`

then press **Enter** on the keyboard.

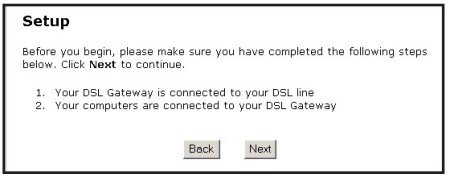
2. The Web Configurator's "Main Menu" screen appears. Select **Setup/ Configuration**.



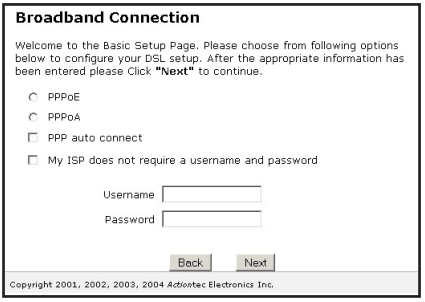
3. Follow the instructions in the "Set Up/Configuration" screen, then click **Begin Basic Setup**.


Basic Setup
Admin Username/Password
Wireless Setup
Advanced Setup
Set Up / Configuration
This section will guide you through the configuration of your DSL Gateway.
In most cases, only Basic Setup is required. In the event that you can not access the Internet after completing the Basic Setup, it is possible that your Internet Service Provider may require additional configuration.
In this case, use the Advanced Setup process to configure your DSL Gateway by clicking on the Advanced Setup option from the menu to the left.
Please click the "Begin Basic Setup" button below to start the basic setup.
Begin Basic Setup

4. In the next screen, follow the on-screen instructions, then click **Next**.


Setup
Before you begin, please make sure you have completed the following steps below. Click Next to continue.
1. Your DSL Gateway is connected to your DSL line
2. Your computers are connected to your DSL Gateway
Back
Next

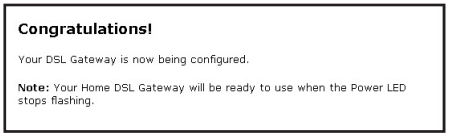
5. In the next screen, select the type of connection provided by the ISP by clicking in the circle next to **PPPoA** or **PPPoE**. If unsure about the selection, check the information provided by the ISP. Then, enter the **User Name** and **Password** provided by the ISP in the appropriate text boxes. If no user name or password is needed, click in the box next to "My ISP does not require a username and password." Click **Next**.


Broadband Connection
Welcome to the Basic Setup Page. Please choose from following options below to configure your DSL setup. After the appropriate information has been entered please Click "Next" to continue.
PPPoE
PPPoA
PPP auto connect
My ISP does not require a username and password
Username
Password
Back
Next
Copyright 2001, 2002, 2003, 2004 Actiontec Electronics Inc.

6. Click the **Save and Restart** button in the "Save and Restart" screen.

Save and Restart
Please click the Save and Restart button below to save your settings and restart your Gateway.
Save and Restart

7. The "Congratulations" screen appears. The Gateway is successfully configured.

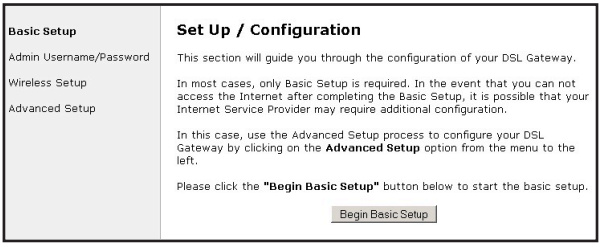

Congratulations!
Your DSL Gateway is now being configured.
Note: Your Home DSL Gateway will be ready to use when the Power LED stops flashing.

The Power light flashes rapidly while the Gateway restarts, then glows steadily green when fully operational. The Internet light will also glow steadily green. The Gateway is now configured and users can start surfing the Web.
If an error stating the Web browser was unable to connect to the Internet appears, check the configuration settings. Ensure all the information required by the ISP was entered correctly.

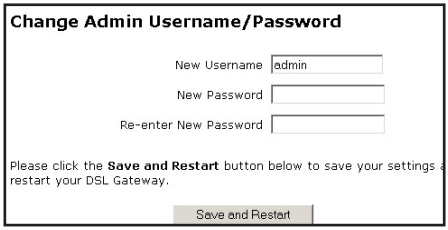
Changing the User Name and Password

To create or change the user name and password, controlling access to the Gateway's Web Configurator screens, follow these instructions:

1. From the Setup/Configuration screen, select **Admin Username/Password** from the menu on the left side.


Basic Setup
Admin Username/Password
Wireless Setup
Advanced Setup
Set Up / Configuration
This section will guide you through the configuration of your DSL Gateway.
In most cases, only Basic Setup is required. In the event that you can not access the Internet after completing the Basic Setup, it is possible that your Internet Service Provider may require additional configuration.
In this case, use the Advanced Setup process to configure your DSL Gateway by clicking on the Advanced Setup option from the menu to the left.
Please click the "Begin Basic Setup" button below to start the basic setup.
Begin Basic Setup

2. The "Change Admin Username/Password" screen appears. Enter a new user name (optional) in the "New Username" text box, then a password in the "New Password" text box. Re-enter the password in the "Re-enter New Password" text box. Make sure to write the user name and password down and keep them in a secure location. They will be needed to access to the Gateway's Web Configurations screens in the future.



3. Click **Save and Restart** at the bottom of the screen.

4. The "Save and Restart" page appears. Click the **Save and Restart** button to save the settings changed in the Change Admin Username/Password screen.

Save and Restart
Please click the Save and Restart button below to save your settings and
restart your Gateway.
Save and Restart

Once the Gateway has rebooted, the password is active. To access the Gateway's Web Configuration screens, the username and password must be entered.

Using Advanced Setup

4

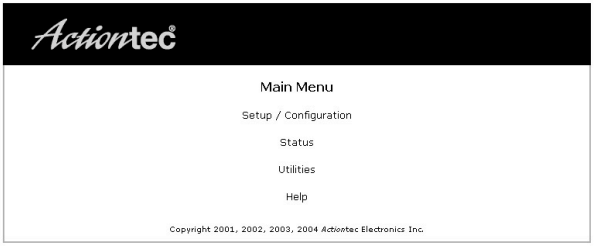
This section contains information concerning setting up the advanced features of the Gateway, such as wireless settings, remote management, and Web site blocking, using the Gateway's Web Configurator.

Accessing Advanced Setup

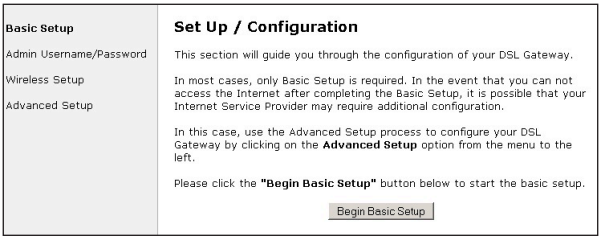
To access the Web Configurator's Advanced Setup screens:

1. Open a Web browser. In the "Address" text box type:
   `http://192.168.0.1`
   then press **Enter** on the keyboard.

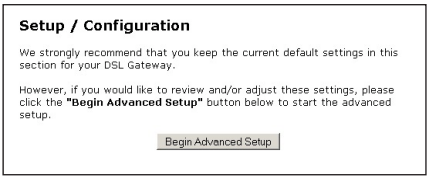
2. The "Main Menu" screen appears. Select **Setup/Configuration**.



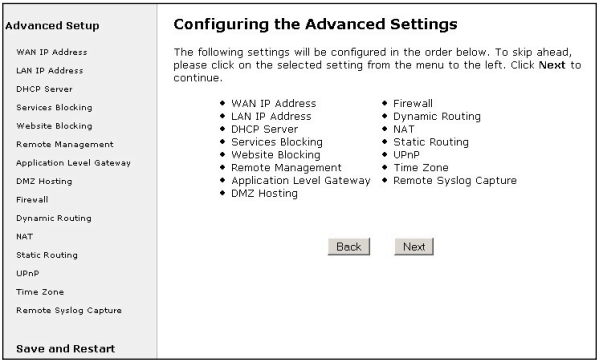
3. In the "Set Up/Configuration" screen, read the instructions, then select **Advanced Setup** from the menu on the left side.


Basic Setup
Admin Username/Password
Wireless Setup
Advanced Setup
Set Up / Configuration
This section will guide you through the configuration of your DSL Gateway.
In most cases, only Basic Setup is required. In the event that you can not access the Internet after completing the Basic Setup, it is possible that your Internet Service Provider may require additional configuration.
In this case, use the Advanced Setup process to configure your DSL Gateway by clicking on the Advanced Setup option from the menu to the left.
Please click the "Begin Basic Setup" button below to start the basic setup.
Begin Basic Setup

4. In the next screen, read the recommendations. To perform an advanced setup on the Gateway, click **Begin Advanced Setup**.


Setup / Configuration
We strongly recommend that you keep the current default settings in this section for your DSL Gateway.
However, if you would like to review and/or adjust these settings, please click the "Begin Advanced Setup" button below to start the advanced setup.
Begin Advanced Setup

5. The "Configuring the Advanced Settings" screen appears. To check all the settings, or if unsure of which settings to modify, select **Next**. To modify a specific configuration, click on its name in the menu bar on the left.



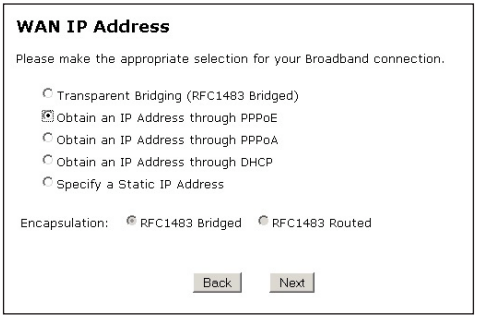
☞ ***Note***: To save changes made in any of the Advanced Setup screens, click **Save and Restart** at the bottom of the gray menu on the left side of the screen.

WAN IP Address

Selecting **WAN IP Address** in the "Configuring the Advanced Settings" screen generates the "WAN IP Address" screen. WAN IP Address allows manual set up of the IP address of the Gateway. There are five ways to do this: **Transparent Bridging, Obtain an IP Address through PPPoE**, **Obtain an IP Address Through PPPoA**, **Obtain an IP Address through DHCP**, and **Specify a Static IP Address**.

☞ ***Note***: If unsure about which connection is present, check with the Internet Service Provider (ISP) before continuing.

After selecting a connection type, click **Next** to continue configuring the connection.

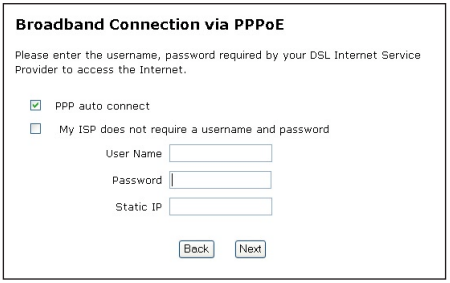


Transparent Bridging

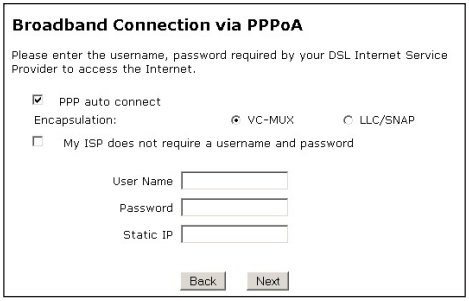
Select this option to use the Gateway as a transparent bridge. This option should only be used if the Gateway is being used as a Modem to connect your computer to the Internet via a DSL connection. When the Gateway is being used as a transparent bridge, it does not provide any firewall security.

Obtain an IP Address through PPPoE or PPPoA

Select one of these options to allow the Gateway to use the Point-to-Point over Ethernet (PPPoE) or Point-to-Point over ATM (PPPoA) protocol.
"**Broadband Connection via PPPoE" screen:**


Broadband Connection via PPPoE
Please enter the username, password required by your DSL Internet Service Provider to access the Internet.
PPP auto connect
My ISP does not require a username and password
User Name
Password
Static IP
Back
Next

"Broadband Connection via PPPoA" screen:



If a **User Name** and **Password** was entered in the Installation Buddy or during Basic Setup, it should be displayed in the "Broadband Connection via PPPoE/PPPoA" screen. If not, enter the information now. If the information is unavailable, contact the ISP.

PPP Auto Connect

If **PPP auto connect** is activated (by clicking in the appropriate check box), the Gateway will attempt to automatically redial the PPP connection if it is dropped or disconnected during an online session. Actiontec recommends that you turn PPP Auto Connect ON.

Encapsulation (PPPoA only)

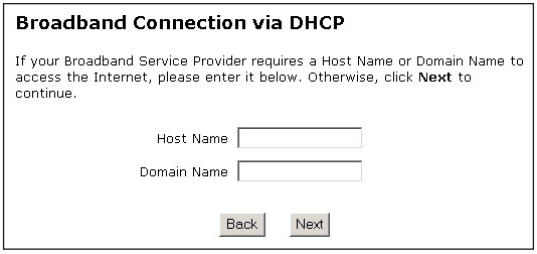
Select one of the encapsulation options, based on information received from the ISP.

Obtain an IP Through DHCP

Select this option if the IP service is configured to use RFC 1483 Bridged or Routed (used for configurations without a Static IP assigned by an ISP). In this mode, the Gateway will query the Internet Service Provider (ISP) to receive the IP address and routing information, which will terminate at the Gateway, as opposed to the IP address and routing information being bridged to terminate at the computer. This allows the use of the router capabilities for the Local Area Network (LAN).

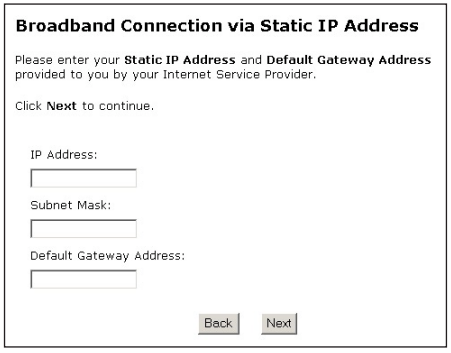
Some ISPs need to authenticate their end users with a **Host Name** and/or **Domain Name**. If this is the case, check with the ISP for a host name and domain name and enter them in the appropriate text boxes in the "Broadband Connection via DHCP" screen. If the ISP does not require these settings, leave the text boxes blank.

☞ ***Note***: Contact the ISP if unsure of the proper configuration.


Broadband Connection via DHCP
If your Broadband Service Provider requires a Host Name or Domain Name to access the Internet, please enter it below. Otherwise, click Next to continue.
Host Name
Domain Name
Back
Next

Specify a Static IP Address

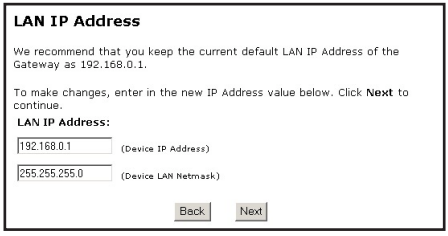
Select this option if the ISP service is configured to use RFC 1483 Bridged or Routed using a Static IP Address. Enter the **IP Address**, **Subnet Mask**, and **Default Gateway Address** provided by the ISP in the "Broadband Connection via Static IP Address" screen, which causes the IP address and routing information to terminate at the Gateway, as opposed to the IP address and routing information being bridged to terminate at the computer. This allows the use of the router capabilities for the Local Area Network (LAN).


Broadband Connection via Static IP Address
Please enter your Static IP Address and Default Gateway Address provided to you by your Internet Service Provider.
Click Next to continue.
IP Address:
Subnet Mask:
Default Gateway Address:
Back
Next

☞ ***Note***: Contact the ISP if unsure of the proper configuration.

LAN IP Address

Selecting **LAN IP Address** in the "Configuring the Advanced Settings" screen generates the "LAN IP Address" screen.


LAN IP Address
We recommend that you keep the current default LAN IP Address of the Gateway as 192.168.0.1.
To make changes, enter in the new IP Address value below. Click Next to continue.
LAN IP Address:
192.168.0.1
(Device IP Address)
255.255.255.0
(Device LAN Netmask)
Back
Next

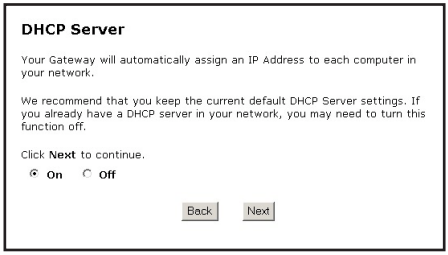
The values in the "Device IP Address" and "Device LAN Netmask" text boxes are the IP address and Subnet mask of the Gateway as seen on the network. These values can be modified for your LAN network, but Actiontec recommends keeping the default factory settings (IP address 192.168.0.1 Subnet mask 255.255.255.0).

☞ ***Note***: If the Gateway's LAN IP Address is modified, ensure the DHCP Server range is within the same subnet. For more information, see "DHCP Server Configuration."

After changing settings, click Next or Back to continue, or Save and Restart to make all changes permanent.

DHCP Server

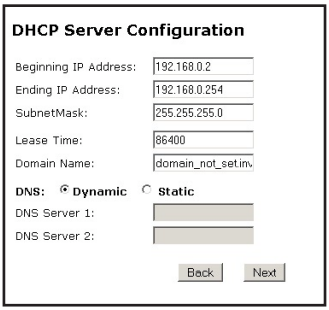
Selecting **DHCP Server** in the "Configuring the Advanced Settings" screen generates the "DHCP Server" screen. The Gateway has a built-in DHCP (Dynamic Host Configuration Protocol) server that automatically assigns a different IP address to each computer on the network, eliminating IP address conflicts.
The factory default setting is **On**. To disable the DHCP Server, select **Off**.


DHCP Server
Your Gateway will automatically assign an IP Address to each computer in your network.
We recommend that you keep the current default DHCP Server settings. If you already have a DHCP server in your network, you may need to turn this function off.
Click Next to continue.
On
Off
Back
Next

Actiontec strongly recommends leaving the DHCP Server option **On**. If the DHCP Server option is **Off**, ensure the IP addresses of the networked computers are on the same subnet as the IP address of the Gateway. For more information, see "DHCP Server Configuration."

DHCP Server Configuration

Clicking **Next** in the "DHCP Server" screen (if the DHCP server is activated) generates the "DHCP Server Configuration" screen. Change IP address range and DNS server information here.



Beginning IP Address

The "Beginning IP Address" is the IP address at which the DHCP server starts assigning IP addresses. *Action*tec recommends keeping the factory default setting (192.168.0.2).

Ending IP Address

The "Ending IP Address" is the IP Address at which the DHCP Server stops assigning IP addresses. *Action*tec recommends keeping the factory default settings (192.168.0.254).

The beginning and ending IP addresses define the IP address range of the Gateway. If the default values are left intact, the Gateway supplies a unique IP address between 192.168.0.2 and 192.168.0.254 to each computer on the network. Note that the first three groups of numbers of the addresses are identical; this means they are on the same subnet. The IP address of the Gateway must be on the same subnet as the IP address range it generates. For instance, if the Gateway's IP address is changed to 10.33.222.1, set the beginning IP address to 10.33.222.2, and the ending IP address to 10.33.222.254.

Lease Time

"Lease Time" is the amount of time, in seconds, the DHCP server will lease a particular IP address. Default is 86400 seconds (24 hours), after which a new IP address must be released. To extend the lease time, enter a larger number.

Domain Name

"Domain Name" allows a network administrator to enter a domain name if the network is being used in a domain environment.

DNS (Dynamic or Static)

These options designate the type of DNS server provided by the ISP. If the ISP provided DNS server information, select the type here. If not, leave as is.

DNS Server 1

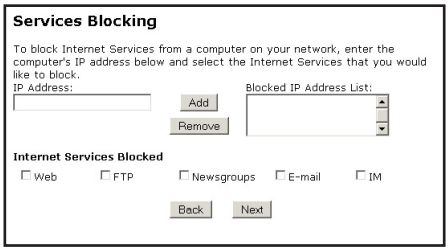
"DNS Server 1" is the primary DNS server provided by the ISP. If the ISP provided DNS server information, enter it here. If not, leave the text box intact.

DNS Server 2

"DNS Server 2" is the secondary DNS provided by the ISP. If the ISP provided secondary DNS server information, enter it here. If not, leave the text box intact.

Services Blocking

Selecting **Services Blocking** in the "Advanced Configuration" screen generates the "Services Blocking" screen.

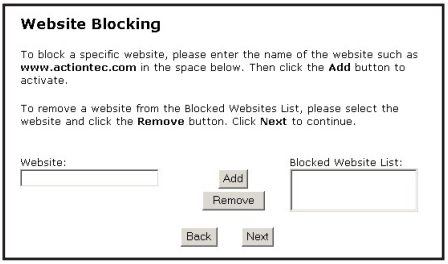


To modify Internet privileges (Web, FTP, Newsgroups, etc.) for the computers on the network:

1. Enter the computer's IP address in the **IP Address:** text box.
2. Select the Internet service(s) to be blocked.
3. Click **Add** to enter the computer's IP address in the "Blocked IP Address List" text box.
4. To remove blocked services, select the computer's IP address in the "Blocked IP Address List" text box and click **Remove**.

Website Blocking

Selecting **Website Blocking** in the "Configuring the Advanced Settings" screen generates the "Website Blocking" screen. This feature enables the Gateway to block Web sites to all computers on the network. To block a Web site, enter the address of the Web site in the "Website" text box and click **Add**. The blocked Web site address is displayed in the "Blocked Website List" text box, and will not be available to computers on the network. To remove a blocked Web site, click on it in the "Blocked Website List," then click **Remove**. Website Blocking supports blocking up to 50 Web sites.


Website Blocking
To block a specific website, please enter the name of the website such as www.actiontec.com in the space below. Then click the Add button to activate.
To remove a website from the Blocked Websites List, please select the website and click the Remove button. Click Next to continue.
Website:
Add
Remove
Blocked Website List:
Back
Next

Remote Management

Selecting **Remote Management** in the "Configuring the Advanced Settings" screen generates the "Remote Management" screen. Remote Management allows access to the Gateway through the Internet via another computer. Actiontec recommends leaving the Remote Management **Off** (the factory default setting).

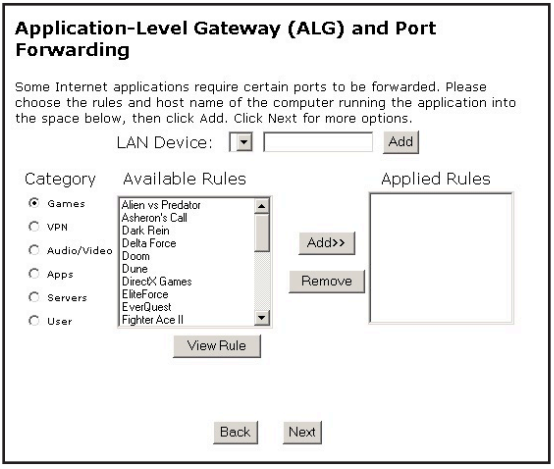
Remote Management
The default Remote Management setting is Off for security reasons. If you want to access your DSL Gateway remotely, please select On.
Remote Management:
On
Off
Back
Next

To access the Gateway from the Internet, activate Remote Management by selecting **On** and writing down the WAN IP address of the Gateway (see "WAN IP Address"). On a computer outside of the network, open a Web browser and enter the Gateway's WAN IP address in the address text box. A username and password prompt appears in the browser window. Enter the username and password in the appropriate text boxes to access the Gateway.

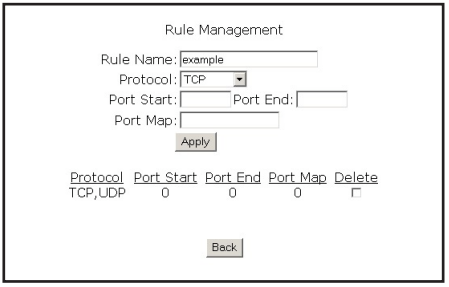
Note: Before Remote Management can be activated, the administrator password must be set. To do this, go to the Setup screen and select Change Admin Password. Follow the instructions in the subsequent screens.

Application Layer Gateway and Port Forwarding

Selecting **Application Layer Gateway** in the "Configuring the Advanced Settings" screen generates the "Application-Level Gateway (ALG) and Port Forwarding" screen. Port forwarding allows certain programs to bypass the Gateway's built-in firewall, allowing access to parts of the network (for hosting a Web or ftp server, for example). To use, select the host name of a computer on the network from the "LAN Device" drop-down list (click the down arrow), then click **Add**. Next, select a "Category" by clicking the appropriate radio button. In the "Available Rules" list box, select a game, application, server, etc., then click **Add**>>. The selected item appears in the "Applied Rules" list box. Repeat for each item needed
To remove an item from the Applied Rules list, highlight it, then click **Remove**.
To view an item's rules (forwarded ports, etc.), highlight it, then click **View Rule.**



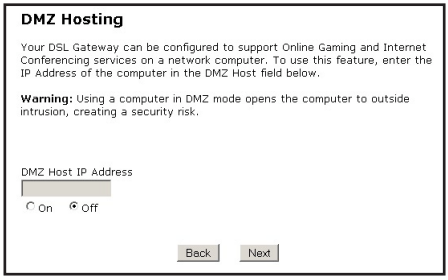
To create a custom set of rules, click the "User" radio button, then click **New**. The "Rule Management" screen appears.



In this screen, the user can create a custom set of rules for a game or application not listed in the Application Level Gateway screen. Enter the "Rule Name," "Protocol," "Port Start," "Port End," and "Port Map" in the appropriate text boxes, then click **Apply**. The rules are summarized at the bottom of the screen, and the rule set will appear in the Application Level Gateway screen after clicking **Back**.

DMZ Hosting

Selecting **DMZ Hosting** in the "Configuring the Advanced Settings" screen generates the "DMZ Hosting" screen. To use DMZ hosting, enter the IP address of the computer on the network to be used as a DMZ host in the "DMZ Host IP Address" text box, then click **On**.


DMZ Hosting
Your DSL Gateway can be configured to support Online Gaming and Internet Conferencing services on a network computer. To use this feature, enter the IP Address of the computer in the DMZ Host field below.
Warning: Using a computer in DMZ mode opens the computer to outside intrusion, creating a security risk.
DMZ Host IP Address
On
Off
Back
Next

DMZ hosting is used to support online gaming and Internet conferencing services. These programs usually require multiple open ports, making the network accessible from the Internet. DMZ hosting symbolically places the DMZ host computer outside of the Gateway's network. Actiontec recommends activating DMZ hosting only as long as necessary.

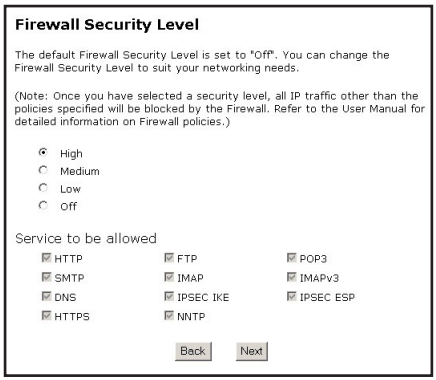
Warning: The DMZ Host computer will be vulnerable to computer hackers on the Internet while in DMZ mode.

Firewall

Selecting **Firewall** in the "Configuring the Advanced Settings" screen generates the "Firewall Security Level" screen. Select the level of security needed for the network.

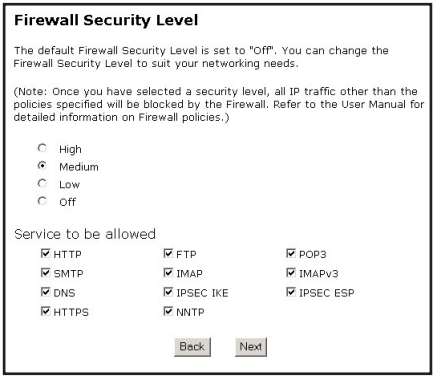
High

If **High** is selected in the "Firewall Security Level" screen, the services listed at the bottom of the screen (HTTP, FTP, POP3, SMTP, IMAP, IMAPv3, DNS, IPSEC IKE, IPSEC ESP, HTTPS, and NNTP) are the only ones allowed to pass through the firewall. All other services will be blocked.



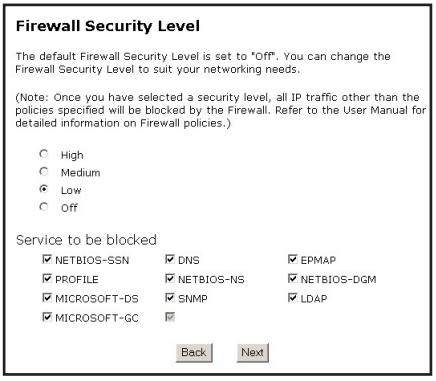
Medium

If **Medium** is selected in the "Firewall Security Level" screen, the services listed at the bottom of the screen (HTTP, FTP, POP3, SMTP, IMAP, IMAPv3, DNS, IPSEC IKE, IPSEC ESP, HTTPS, and NNTP) are allowed to pass through the firewall. Additionally, the user can click in the appropriate check box to allow or deny access for a particular service (check mark in the check box to allow; blank check box to deny). All services not listed are denied access.



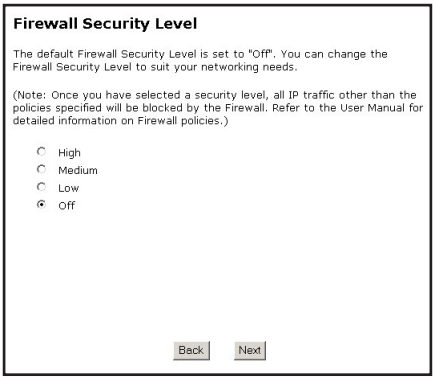
Low

If **Low** is selected in the "Firewall Security Level" screen, the services listed at the bottom of the screen (NETBIOS-SSN, DNS, EPMAP, PROFILE, NETBIOS-NS, NETBIOS-DGM, MICROSOFT-DS, SNMP, LDAP, and MICROSOFT-GC,) are blocked by the firewall. Additionally, the user can click in the appropriate check box to allow or deny access for a particular service (check mark in the check box to allow; blank check box to deny). All services not listed are denied access.



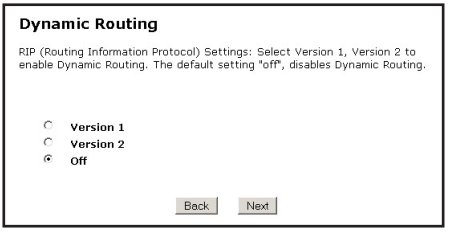
Off

If **Off** is selected in the "Firewall Security Level" screen, firewall filtering is based solely on the basic NAT firewall.


Firewall Security Level
The default Firewall Security Level is set to "Off". You can change the Firewall Security Level to suit your networking needs.
(Note: Once you have selected a security level, all IP traffic other than the policies specified will be blocked by the Firewall. Refer to the User Manual for detailed information on Firewall policies.)
High
Medium
Low
Off
Back
Next

Dynamic Routing

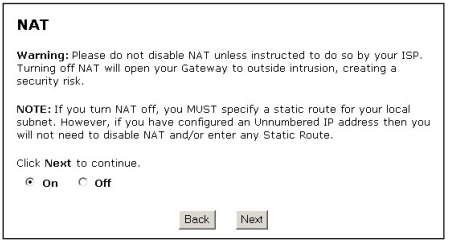
Selecting **Dynamic Routing** in the "Configuring the Advanced Settings" screen generates the "Dynamic Routing" screen.


Dynamic Routing
RIP (Routing Information Protocol) Settings: Select Version 1, Version 2 to enable Dynamic Routing. The default setting "off", disables Dynamic Routing.
Version 1
Version 2
Off
Back
Next

If another router or gateway is set up behind the Gateway in the network configuration, consult the documentation that came with the other router/gateway to see what kind of Dynamic Routing is required operate it with the Gateway, then select the appropriate option.

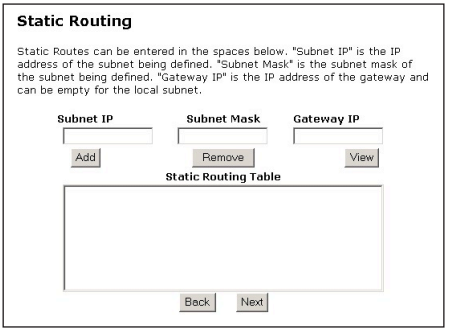
NAT (Network Address Translation)

Selecting **NAT** in the "Configuring the Advanced Settings" screen generates the "NAT" screen. The Gateway's basic firewall security is based on NAT. Disabling NAT allows the computers connected to the Gateway to be accessed by outside parties. Do not turn NAT off unless instructed to do so by the ISP.


NAT
Warning: Please do not disable NAT unless instructed to do so by your ISP. Turning off NAT will open your Gateway to outside intrusion, creating a security risk.
NOTE: If you turn NAT off, you MUST specify a static route for your local subnet. However, if you have configured an Unnumbered IP address then you will not need to disable NAT and/or enter any Static Route.
Click Next to continue.
On
Off
Back
Next

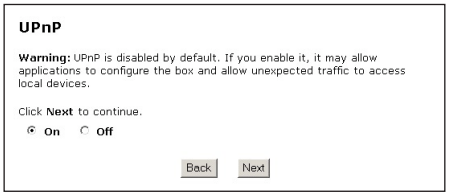
Static Routing

Selecting **Static Routing** in the "Configuring the Advanced Settings" screen generates the "Static Routing" screen. Enter the addresses in their respective text boxes, then click **Add**. The address will appear in the "Static Routing Table." To remove an address, highlight it by clicking on it in the Static Routing Table, then click **Remove**.


Static Routing
Static Routes can be entered in the spaces below. "Subnet IP" is the IP address of the subnet being defined. "Subnet Mask" is the subnet mask of the subnet being defined. "Gateway IP" is the IP address of the gateway and can be empty for the local subnet.
Subnet IP
Subnet Mask
Gateway IP
Add
Remove
View
Static Routing Table
Back
Next

UPnP (Universal Plug and Play)

Selecting **UPnP** in the "Configuring the Advanced Settings" screen generates the "UPnP" screen. In this screen, the Universal Plug and play option is turned on or off by activating the appropriate circle.

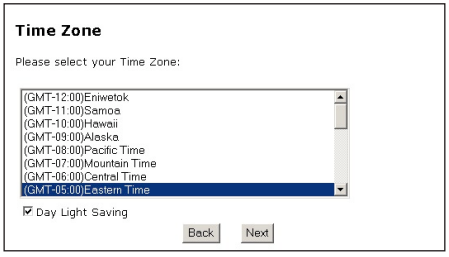

UPnP
Warning: UPnP is disabled by default. If you enable it, it may allow applications to configure the box and allow unexpected traffic to access local devices.
Click Next to continue.
On
Off
Back
Next

Universal Plug and Play is a zero-configuration networking protocol that allows hardware and software (such as Netmeeting) to operate more efficiently. If Netmeeting is not running properly, activate UPnP.

☞ ***Note***: Activating UPnP presents a slight security risk. After finishing with the hardware or software using UPnP, Actiontec recommends deactivating UPnP.

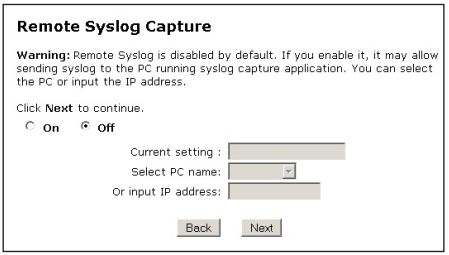
Time Zone

Selecting **Time Zone** in the "Configuring the Advanced Settings" screen generates the "Time Zone" screen. In this screen, select the time zone in which the Gateway is being used.



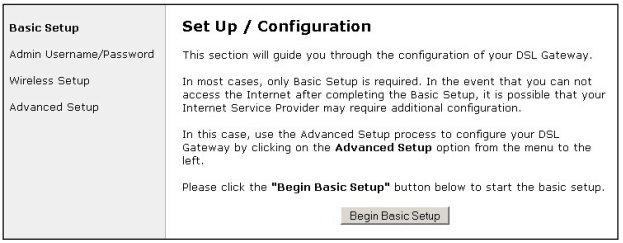
Remote Syslog Capture

Selecting **Remote Syslog Capture** in the "Configuring the Advanced Settings" screen generates the "Remote Syslog Capture" screen. In this screen, the user can configure the Gateway to allow a remote computer to access the Gateway's system logs.

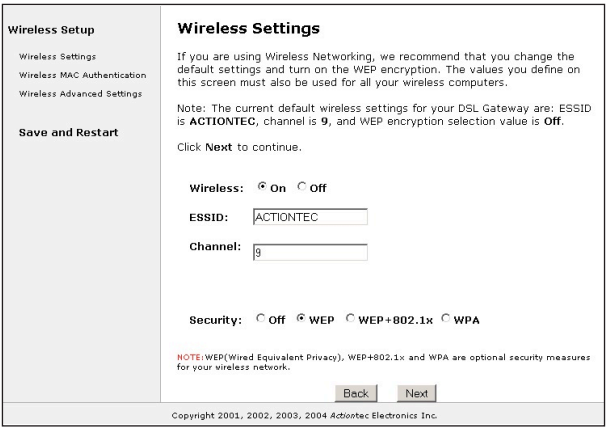

Remote Syslog Capture
Warning: Remote Syslog is disabled by default. If you enable it, it may allow sending syslog to the PC running syslog capture application. You can select the PC or input the IP address.
Click Next to continue.
On
Off
Current setting :
Select PC name:
Or input IP address:
Back
Next

Wireless Settings

To access the Gateway's wireless configuration screens, select **Wireless Settings** from the menu on the left side of the "Set Up/Configuration" screen.


Basic Setup
Admin Username/Password
Wireless Setup
Advanced Setup
Set Up / Configuration
This section will guide you through the configuration of your DSL Gateway.
In most cases, only Basic Setup is required. In the event that you can not access the Internet after completing the Basic Setup, it is possible that your Internet Service Provider may require additional configuration.
In this case, use the Advanced Setup process to configure your DSL Gateway by clicking on the Advanced Setup option from the menu to the left.
Please click the "Begin Basic Setup" button below to start the basic setup.
Begin Basic Setup

This generates the "Wireless Settings" screen.


Wireless Setup
Wireless Settings
Wireless MAC Authentication
Wireless Advanced Settings
Save and Restart
Wireless Settings
If you are using Wireless Networking, we recommend that you change the default settings and turn on the WEP encryption. The values you define on this screen must also be used for all your wireless computers.
Note: The current default wireless settings for your DSL Gateway are: ESSID is ACTIONTEC, channel is 9, and WEP encryption selection value is Off.
Click Next to continue.
Wireless: On Off
ESSID: ACTIONTEC
Channel: 9
Security: Off WEP WEP+802.1x WPA
NOTE:WEP(Wired Equivalent Privacy), WEP+802.1x and WPA are optional security measures for your wireless network.
Back
Next
Copyright 2001, 2002, 2003, 2004 Actiontec Electronics Inc.

Wireless

To activate the Gateway's wireless radio, click in the circle next to **On**. To turn off wireless radio, click in the circle next to **Off**.

ESSID

ESSID is the network name assigned to the wireless network. The factory default setting is "ACTIONTEC." Although Actiontec recommends keeping the default value intact, the ESSID value can be modified, using any combination of alpha-numeric characters (i.e., A-Z, a-z, 0-9). All wireless-capable computers included on the Gateway's wireless network must have this same ESSID value. (For the Actiontec 802.11b/g Wireless PC Card, the ESSID value must be the same as the SSID value.)

Channel

Channel assigns the frequency band at which the Gateway communicates. In the United States, use channels 1-11. (The factory default value is set to 9.)

Security

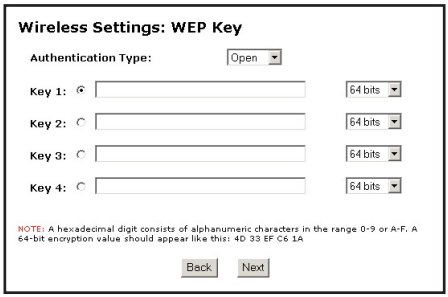
There are four wireless security options: **Off**, **WEP**, **WEP+802.1x**, and **WPA**. The latter three options are different types of wireless security.

Off

Selecting **Off** disables wireless security. Selecting this option allows any computer with wireless capability and the correct ESSID value to join the wireless network.

WEP

Selecting the security option "WEP" in the Wireless Settings screen generates the "WEP Key" screen. Here, the authentication type, encryption level, and WEP keys are entered to activate WEP (Wired Equivalent Privacy) security encryption for the wireless network.



Authentication Type - There are three authentication types: Open, Shared, and Both. Open authentication allows any wireless-enabled device to recognize the network, even if the WEP key is invalid. Shared allows only wireless-enabled devices with the correct WEP key to recognize the network.

64-bit WEP - 64-bit WEP requires one or more keys, each key comprising five hexadecimal pairs. A hexadecimal digit consists of an alphanumeric character ranging from 0-9 or A-F. An example of a 64-bit WEP key is: 4E-A3-3D-68-72. To create a set of 64-bit WEP keys, activate one or more keys by clicking in the appropriate circles, then enter five hexadecimal digit pairs in each activated **Key** text box (**Key 1-**, **Key 2-**, **Key 3-**, **Key 4-**). After activating 64-bit WEP on the Gateway, a computer with wireless capability can join the network only if these same keys are entered in the computer's wireless encryption scheme.

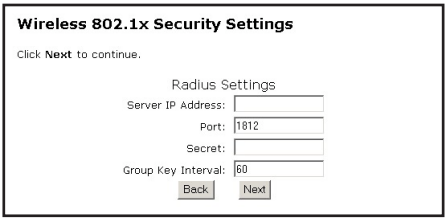
128-bit WEP - 128-bit WEP requires one or more keys, comprising 13 hexadecimal pairs. A hexadecimal digit consists of alphanumeric characters ranging from 0-9 or A-F. An example of a 128-bit WEP key is: 3D-44-FE-6C-A1-EF-2E-D3-C4-21-74-5D-B1. To create a 128-bit WEP key, activate **Key 1** by clicking in the appropriate circle, then enter 13 hexadecimal digit pairs in the **Key** text box. After activating 128-bit WEP on the Gateway, a computer with wireless capability can join the network only if this key is entered in the computer's wireless encryption scheme.

256-bit WEP - 256-bit WEP requires one or more keys, each key comprising 29 hexadecimal pairs. A hexadecimal digit consists of alphanumeric characters ranging from 0-9 or A-F. To create a 256-bit WEP key, activate **Key 1** by clicking in the appropriate circle, then enter 29 hexadecimal digit pairs in the **Key** text box. After activating 256-bit WEP on the Gateway, a computer with wireless capability can join the network only if this key is entered in the computer's wireless encryption scheme.

☞ ***Note***: Not all wireless PC Cards support 128- or 256-bit WEP. Ensure that all PC Cards installed in the networked computers support 128- or 256-bit WEP before activating.

WEP+802.1x

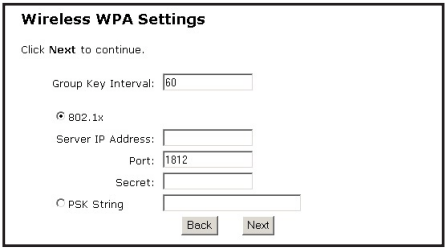
Activating **WEP+802.1x** in the Wireless Settings screen generates the "Wireless 802.1x Security Settings" screen. This setting is for enterprise networks only, and should be accessed by an experienced information systems specialist.



To set up WEP+802.1x security, enter the IP address of the RADIUS server in the "Server IP Address" text box, and the "Secret" key (for communication between the RADIUS server and the Gateway) in the "Secret" text box. The "Port" and "Group Key Interval" values should remain the same

WPA

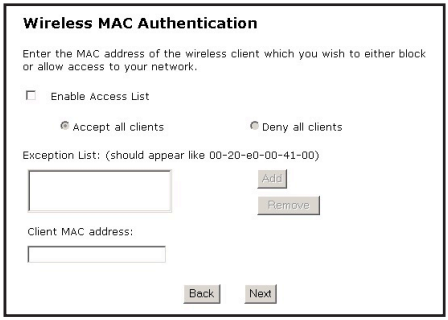
Activating **WPA** (Wi-Fi Protected Access) in the Wireless Settings screen generates the "Wireless WPA Settings" screen.



There are two levels of WPA. The "Group Key Interval," "Server IP Address," "Port," and "Secret" text boxes, along with the "802.1x" radio button, are enterprise network specific, and should only be accessed by an information systems professional. See "WEP+802.1x" on the previous page for more information. "PSK String" is for home network security. To set up a PSK (Pre-Shared Key), click in the circle next to **PSK String**, then enter 8-63 alphanumeric characters in the text box. All wireless-enabled devices must support WPA and know the PSK to join the network.

Wireless MAC Authentication

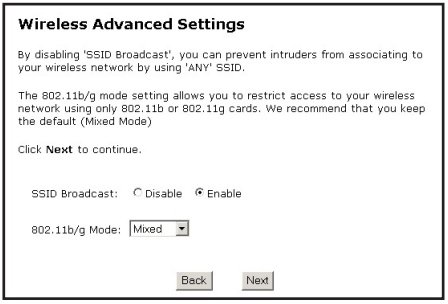
Selecting **Wireless MAC Authentication** in the "Wireless Settings" screen generates the "Wireless MAC Authentication" screen.


Wireless MAC Authentication
Enter the MAC address of the wireless client which you wish to either block or allow access to your network.
Enable Access List
Accept all clients
Deny all clients
Exception List: (should appear like 00-20-e0-00-41-00)
Add
Remove
Client MAC address:
Back
Next

This feature allows the user to control the wireless LAN network by denying or allowing wireless access by specifying the MAC address of the wireless client(s) allowed or denied access on the wireless network.
After changing settings, click Next or Back to continue, or Save and Restart to make all changes permanent.

Wireless Advanced Settings

Selecting **Wireless Advanced Settings** in the "Wireless Settings" screen generates the "Wireless Advanced Settings" screen.


Wireless Advanced Settings
By disabling 'SSID Broadcast', you can prevent intruders from associating to your wireless network by using 'ANY' SSID.
The 802.11b/g mode setting allows you to restrict access to your wireless network using only 802.11b or 802.11g cards. We recommend that you keep the default (Mixed Mode)
Click Next to continue.
SSID Broadcast: Disable Enable
802.11b/g Mode: Mixed
Back
Next

SSID Broadcast

To prevent unknown users from associating with the Gateway's network (by using "ANY" as an SSID, for example), disable the Gateway's SSID broadcast by clicking in the circle next to "Disable."

802.11b/g Mode

Access to the Gateway's network can be restricted to wireless clients using either the 802.11b or 802.11g wireless adapters. Click on the down arrow next to the text box and select the desired option. Actiontec recommends using the "Mixed" mode (the default option), which enables both 802.11b and 802.11g wireless clients to join the network.

After changing settings, click Next or Back to continue, or Save and Restart to make all changes permanent.

This page left intentionally blank.

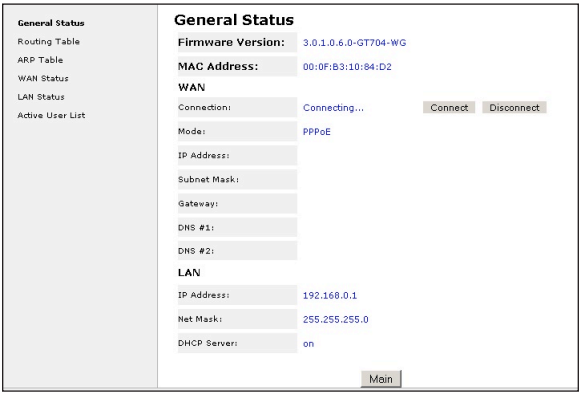
Viewing the Gateway's Status

5

After configuring the Gateway, settings can be viewed by selecting **Status** in the Web Configurator's Main Menu. In the menu on the left side, there are other Status options available: **Routing Table**, **ARP Table**, **WAN Status**, **LAN Status**, and **Active User List**.
No settings (other than connecting or disconnecting from the Internet) can be changed from the Current Status screen.

General Status

After configuring the Gateway, settings can be viewed by selecting **Status** in the Main Menu. The "General Status" screen appears, displaying many of the Gateway's settings. No settings (other than connecting or disconnecting from the Internet by clicking on **Connect** or **Disconnect**) can be changed from the General Status screen.



Firmware Version

Displays the firmware version the Gateway is currently running.

MAC Address

Displays the MAC (Media Access Control) address of the Gateway.

WAN - Connection

Displays the state of the connection to the ISP service (**Connected**, **Disconnected**, or **Connecting**).

WAN - Mode

Displays the type of connection used to communicate with the ISP.

WAN - IP Address

Displays the IP address the ISP assigned to the Gateway.

WAN - Subnet Mask

Displays the subnet mask address the ISP assigned to the Gateway.

WAN - Gateway

Displays the Gateway address (for the IP address and subnet mask) the ISP assigned to the Gateway.

WAN - DNS #1 & #2

Displays the Domain Name Server address(es) the ISP assigned to the Gateway.

LAN - IP Address

Displays the Local Area Network's (LAN) IP address.

LAN - Net Mask

Displays the subnet mask address configured for the LAN IP address.

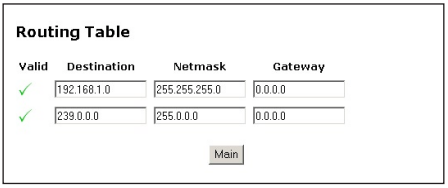
LAN - DHCP Server

Displays the state of the DHCP Server (**On** or **Off**).

In the menu on the left side, there are other Status options available: **Routing Table**, **ARP Table**, **WAN Status**, **LAN Status**, and **Active User List**. Click to generate the Status option of choice.

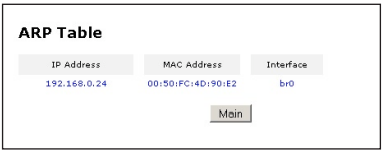
Routing Table

Selecting **Routing Table** generates the "Routing Table" screen. This screen displays on overview of the Gateway's routes.



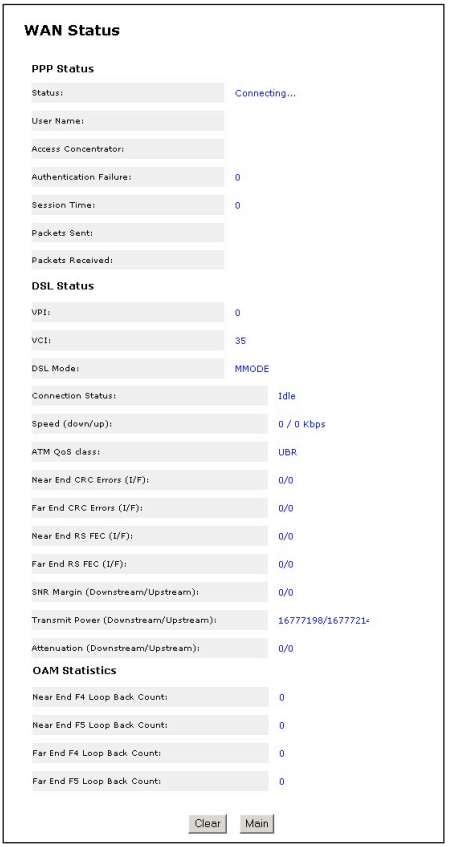
ARP Table

Selecting **ARP Table** generates the "ARP Table" screen. This screen displays the IP address, MAC address and interface type of locally connected computers and devices.



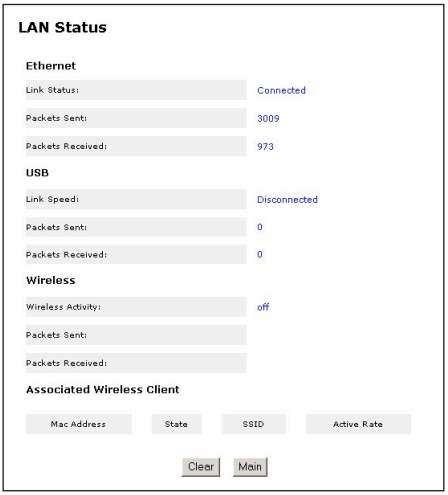
WAN Status

Selecting **WAN Status** generates the "WAN Status" screen. This screen displays on overview of the Gateway's WAN (Wide Area Network) connection, including information concerning the WAN and DSL connection, as well as OAM statistics.



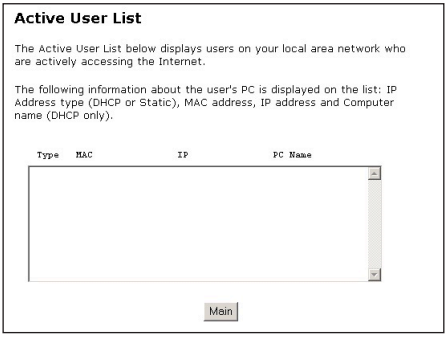
LAN Status

Selecting **LAN Status** generates the "LAN Status" screen. This screen displays on overview of the Gateway's LAN (Local Area Network) port connections, including information concerning any Ethernet, USB, and/or wireless connections.



Active User List

Selecting **Active User List** generates the "Active User List" screen. This screen displays a list of the users currently connected to the Gateway accessing the Internet with Network Address Translation (NAT) security activated.

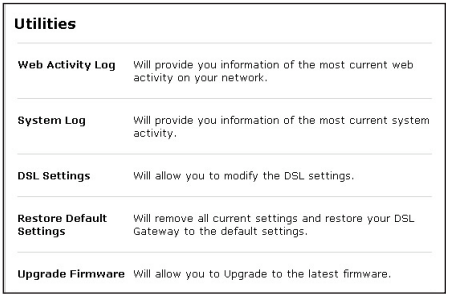

Active User List
The Active User List below displays users on your local area network who are actively accessing the Internet.
The following information about the user's PC is displayed on the list: IP Address type (DHCP or Static), MAC address, IP address and Computer name (DHCP only).
Type
MAC
IP
PC Name
Main

This page left intentionally blank.

Using Utilities

6

To access the Gateway's Web-based Utilities, select **Utilities** from the Web Configurator's Main Menu screen. The "Utilities" screen appears.


Utilities
Web Activity Log
Will provide you information of the most current web activity on your network.
System Log
Will provide you information of the most current system activity.
DSL Settings
Will allow you to modify the DSL settings.
Restore Default Settings
Will remove all current settings and restore your DSL Gateway to the default settings.
Upgrade Firmware
Will allow you to Upgrade to the latest firmware.

From this screen, the Web activity and system log can be viewed, the DSL settings changed, the Gateway's factory default settings restored, and the Gateway's firmware upgraded.

Web Activity Log

The Web Activity Log provides information about the Web sites each computer on the Gateway's network has visited. To access the Web Activity Log, select **Web Activity Log** from the "Utilities" screen.

Auto Refresh

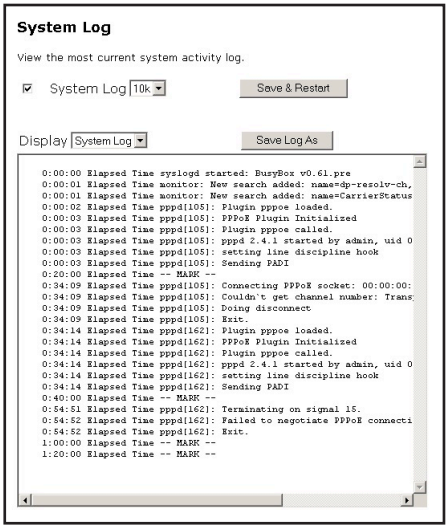
To set the Web Activity Log screen to automatically refresh at certain intervals, activate the circle next to "Auto Refresh Every" at the bottom of the Web Activity Log screen, then enter a time value (in seconds) in the text box, or click on the down arrow and select a time value from the menu that appears. The Web Activity Log will refresh at the selected interval.

Manual Refresh

To set the Web Activity Log screen to manually refresh, activate the circle next to "Manual Refresh" at the bottom of the Web Activity Log screen. To refresh the Web Activity Log screen, click **Refresh**.

System Log

The System Log provides information about the Gateway's activity. To access the Web Activity Log, select **Web Activity Log** from the "Utilities" screen.


System Log
View the most current system activity log.
System Log 10k
Save & Restart
Display System Log
Save Log As
0:00:00 Elapsed Time syslogd started: BusyBox v0.61.pre
0:00:01 Elapsed Time monitor: New search added: name=dp-resolv-ch,
0:00:01 Elapsed Time monitor: New search added: name=CarrierStatus
0:00:02 Elapsed Time pppd[105]: Plugin pppoe loaded.
0:00:03 Elapsed Time pppd[105]: PPPoE Plugin Initialized
0:00:03 Elapsed Time pppd[105]: Plugin pppoe called.
0:00:03 Elapsed Time pppd[105]: pppd 2.4.1 started by admin, uid 0
0:00:03 Elapsed Time pppd[105]: setting line discipline hook
0:00:03 Elapsed Time pppd[105]: Sending PADI
0:20:00 Elapsed Time -- MARK --
0:34:09 Elapsed Time pppd[105]: Connecting PPPoE socket: 00:00:00:
0:34:09 Elapsed Time pppd[105]: Couldn't get channel number: Trans
0:34:09 Elapsed Time pppd[105]: Doing disconnect
0:34:09 Elapsed Time pppd[105]: Exit.
0:34:14 Elapsed Time pppd[162]: Plugin pppoe loaded.
0:34:14 Elapsed Time pppd[162]: PPPoE Plugin Initialized
0:34:14 Elapsed Time pppd[162]: Plugin pppoe called.
0:34:14 Elapsed Time pppd[162]: pppd 2.4.1 started by admin, uid 0
0:34:14 Elapsed Time pppd[162]: setting line discipline hook
0:34:14 Elapsed Time pppd[162]: Sending PADI
0:40:00 Elapsed Time -- MARK --
0:54:51 Elapsed Time pppd[162]: Terminating on signal 15.
0:54:52 Elapsed Time pppd[162]: Failed to negotiate PPPoE connecti
0:54:52 Elapsed Time pppd[162]: Exit.
1:00:00 Elapsed Time -- MARK --
1:20:00 Elapsed Time -- MARK --

System Log (Size)

Select the size of the system log displayed here. The smaller the size, the shorter the length of the system log saved.

Display

View other saved logs by selecting a log from this drop-down list.

Save & Restart

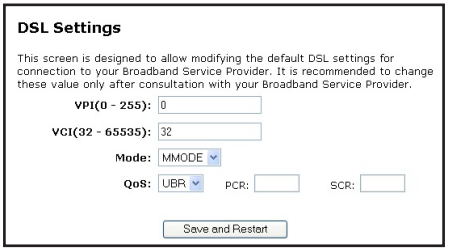
Pressing this button saves any changes to the System Log screen and causes the Save and Restart screen to appear.

Save Log As

Pressing this button allows the user to save a log as a file.

DSL Settings

To access DSL Settings, select **DSL Settings** from the "Utilities" screen. The Gateway's VPI, VCI, Mode, and QoS (Quality of Service) settings can be changed from this screen. Actiontec recommends not changing these values without first consulting the ISP.

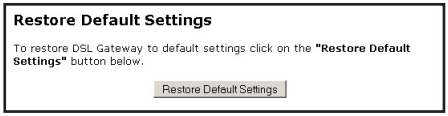

DSL Settings
This screen is designed to allow modifying the default DSL settings for connection to your Broadband Service Provider. It is recommended to change these value only after consultation with your Broadband Service Provider.
VPI(0 - 255):
0
VCI(32 - 65535):
32
Mode:
MMODE
QoS:
UBR
PCR:
SCR:
Save and Restart

Restore Default Settings

To restore the Gateway to its factory default settings, select **Restore Default Settings** from the "Utilities" screen. When the "Restore Default Settings" screen appears, click **Restore Default Settings**. Any changes made to the Gateway's settings will be lost and the factory default settings restored. During this process, the Gateway's Power light flashes and the Gateway is disabled.

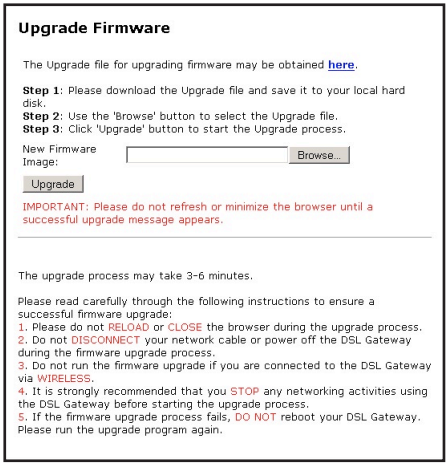
Warning: Do not unplug the Power cord from the Gateway during the Restore Default Settings process. Doing so may result in permanent damage to the Gateway.

When the Power Light stops flashing and glows steadily green, the Gateway is fully operational.


Restore Default Settings
To restore DSL Gateway to default settings click on the "Restore Default Settings" button below.
Restore Default Settings

Upgrade Firmware

Selecting **Upgrade Firmware** in the "Utilities" screen generates the "Upgrade Firmware" screen. Actiontec periodically posts firmware upgrades to enhance the Gateway's capabilities. Follow the instructions on-screen to upgrade the Gateway's firmware.


Upgrade Firmware
The Upgrade file for upgrading firmware may be obtained here.
Step 1: Please download the Upgrade file and save it to your local hard disk.
Step 2: Use the 'Browse' button to select the Upgrade file.
Step 3: Click 'Upgrade' button to start the Upgrade process.
New Firmware Image:
Browse...
Upgrade
IMPORTANT: Please do not refresh or minimize the browser until a successful upgrade message appears.
The upgrade process may take 3-6 minutes.
Please read carefully through the following instructions to ensure a successful firmware upgrade:
1. Please do not RELOAD or CLOSE the browser during the upgrade process.
2. Do not DISCONNECT your network cable or power off the DSL Gateway during the firmware upgrade process.
3. Do not run the firmware upgrade if you are connected to the DSL Gateway via WIRELESS.
4. It is strongly recommended that you STOP any networking activities using the DSL Gateway before starting the upgrade process.
5. If the firmware upgrade process fails, DO NOT reboot your DSL Gateway. Please run the upgrade program again.

Setting Up a Network

7

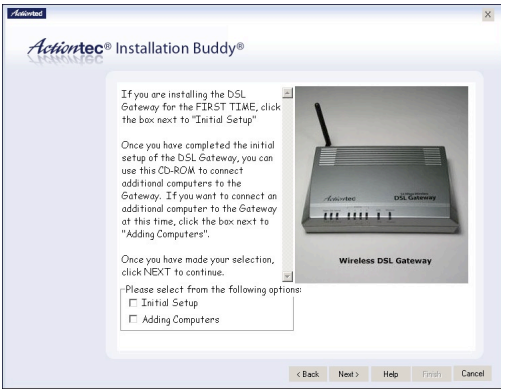
Other computers can be connected to the Gateway to form a network, which allows the computers to transfer files, communicate with each other, and share an Internet connection. The networked computers can be connected to the Gateway in three ways: Ethernet, USB, or wirelessly.

Ethernet

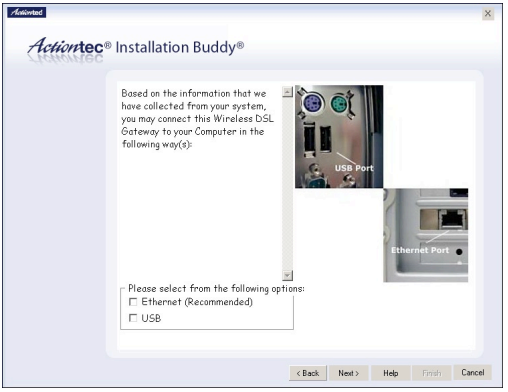
1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

Actiontec
Actiontec® Installation Buddy®
Welcome to the Actiontec Installation Buddy!
This Buddy will be your step-by-step guide during the installation process.
Click NEXT to begin.
HI! I'M YOUR INSTALLATION BUDDY. I'LL BE AROUND TO HELP YOU OUT.
Buddy
< Back
Next >
Help
Finish
Cancel

2. Read the instructions, select **Adding Computers** by clicking on the appropriate check box, then click **Next**.

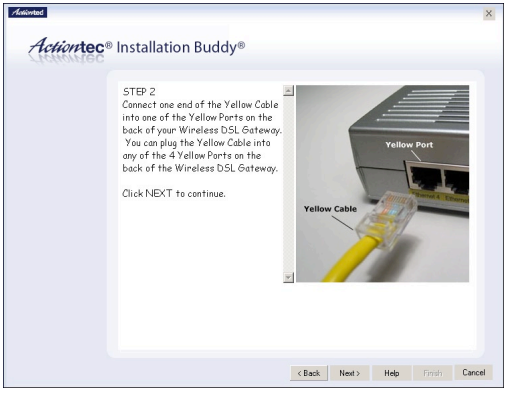

Actiontec® Installation Buddy®
If you are installing the DSL Gateway for the FIRST TIME, click the box next to "Initial Setup"
Once you have completed the initial setup of the DSL Gateway, you can use this CD-ROM to connect additional computers to the Gateway. If you want to connect an additional computer to the Gateway at this time, click the box next to "Adding Computers".
Once you have made your selection, click NEXT to continue.
Wireless DSL Gateway
Please select from the following options:
Initial Setup
Adding Computers
< Back
Next >
Help
Finish
Cancel

3. Select **Ethernet**, then click **Next**.

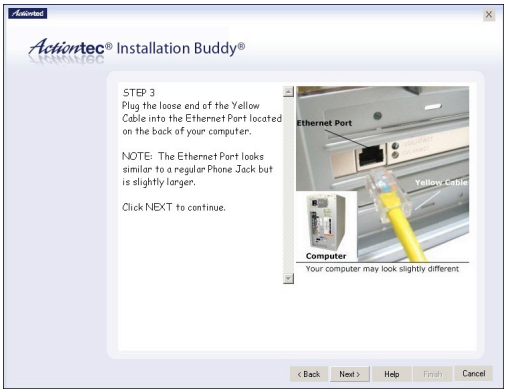

Actiontec® Installation Buddy®
Based on the information that we have collected from your system, you may connect this Wireless DSL Gateway to your Computer in the following way(s):
USB Port
Ethernet Port
Please select from the following options:
Ethernet (Recommended)
USB
< Back
Next >
Help
Finish
Cancel

4. When the next window appears, get the **yellow Ethernet cable** from the Quick Start Kit, then click **Next**.

5. Plug one end of the **yellow Ethernet cable** into one of the open **yellow ports** on the back of the Gateway, then click **Next**.

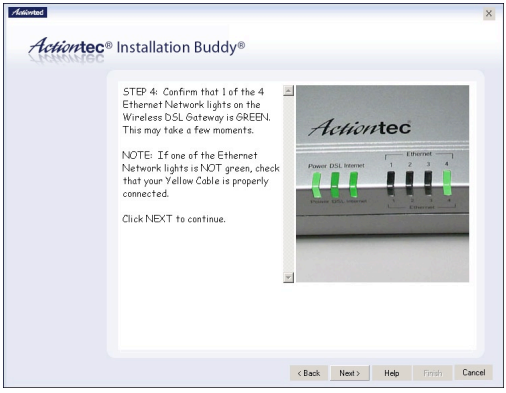

Actiontec® Installation Buddy®
STEP 2
Connect one end of the Yellow Cable into one of the Yellow Ports on the back of your Wireless DSL Gateway. You can plug the Yellow Cable into any of the 4 Yellow Ports on the back of the Wireless DSL Gateway.
Click NEXT to continue.
Yellow Port
Yellow Cable
< Back
Next >
Help
Finish
Cancel

6. Plug the other end of the **yellow Ethernet cable** into an **Ethernet port** on the back of the computer, then click **Next**.


Actiontec® Installation Buddy®
STEP 3
Plug the loose end of the Yellow Cable into the Ethernet Port located on the back of your computer.
NOTE: The Ethernet Port looks similar to a regular Phone Jack but is slightly larger.
Click NEXT to continue.
Ethernet Port
Yellow Cable
Computer
Your computer may look slightly different
< Back
Next >
Help
Finish
Cancel

☞ ***Note***: An Ethernet port looks similar to a phone port, but is slightly bigger.

7. Make sure one of the **Ethernet lights** glows steadily green, then click **Next**.


Actiontec® Installation Buddy®
STEP 4: Confirm that 1 of the 4 Ethernet Network lights on the Wireless DSL Gateway is GREEN. This may take a few moments.
NOTE: If one of the Ethernet Network lights is NOT green, check that your Yellow Cable is properly connected.
Click NEXT to continue.
Actiontec
Power DSL Internet
Ethernet
1 2 3 4
< Back
Next >
Help
Finish
Cancel

8. A series of congratulations windows appears. Click through them to exit the Installation Buddy.

Actiontec® Installation Buddy®
Did you know that with this new Wireless DSL Gateway, you can enable EVERY computer in your home to access the Internet?
The Wireless Home
Wireless DSL Gateway
< Back
Next >
Help
Finish
Cancel

Actiontec® Installation Buddy®
Congratulations!
You have successfully set up this computer to share high speed Internet access.
If you are using Windows 98 or Windows 98SE, you will need to reboot this computer before proceeding.
Make sure you insert this CD-ROM into the next computer that you want to have high speed Internet access.
Click FINISH.
< Back
Next >
Help
Finish
Cancel

The computer is connected to the Gateway via Ethernet. To connect more computers to the Gateway via Ethernet, repeat this procedure.

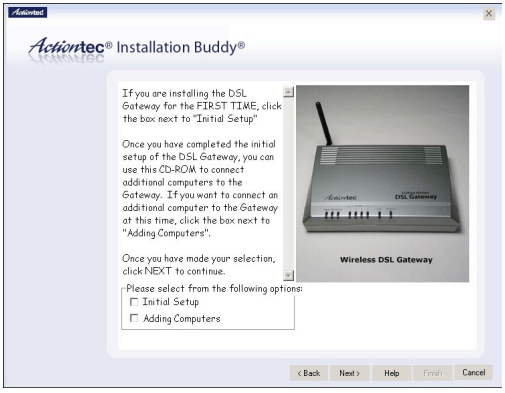
USB

☞ ***Note***: If the first computer connected to the Gateway is connected via USB, no other computers can be connected in this manner. Connect additional computers via Ethernet (see page 71).

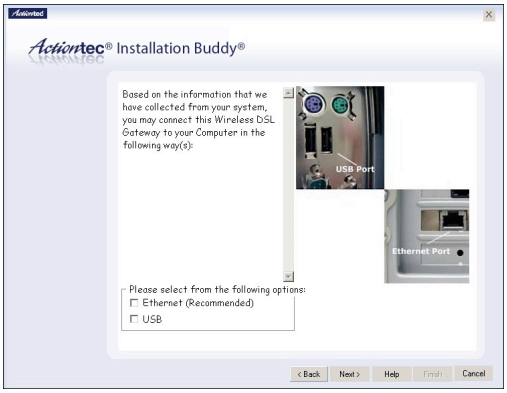
1. Insert the Installation CD in the CD-ROM drive of the computer. The Installation Buddy starts automatically. Wait until the following screen appears, read the on-screen instructions, then click **Next**.

Actiontec® Installation Buddy®
Welcome to the Actiontec Installation Buddy!
This Buddy will be your step-by-step guide during the installation process.
Click NEXT to begin.
HI! I'M YOUR INSTALLATION BUDDY. I'LL BE AROUND TO HELP YOU OUT.
Buddy
< Back
Next >
Help
Finish
Cancel

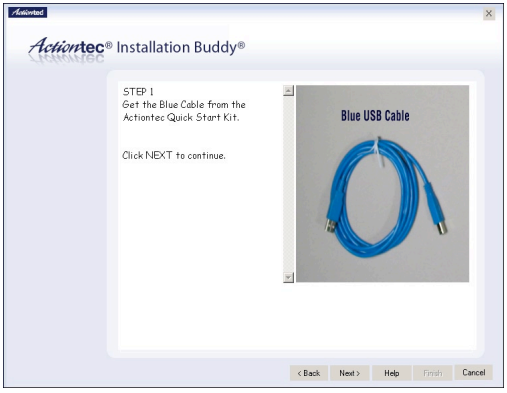
2. Read the instructions, select **Additional Computers** by clicking on the appropriate check box, then click **Next**.


Actiontec® Installation Buddy®
If you are installing the DSL Gateway for the FIRST TIME, click the box next to "Initial Setup"
Once you have completed the initial setup of the DSL Gateway, you can use this CD-ROM to connect additional computers to the Gateway. If you want to connect an additional computer to the Gateway at this time, click the box next to "Adding Computers".
Once you have made your selection, click NEXT to continue.
Please select from the following options:
Initial Setup
Adding Computers
Wireless DSL Gateway
< Back
Next >
Help
Finish
Cancel

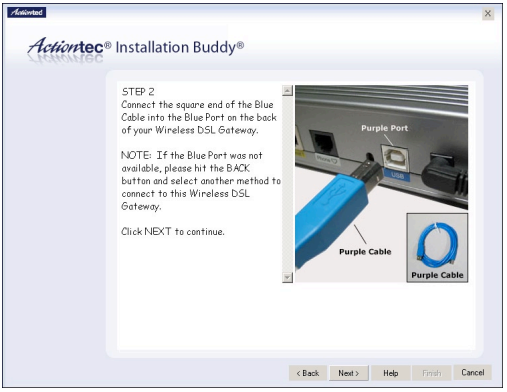
3. Select **USB**, then click **Next**.


Actiontec® Installation Buddy®
Based on the information that we have collected from your system, you may connect this Wireless DSL Gateway to your Computer in the following way(s):
USB Port
Ethernet Port
Please select from the following options:
Ethernet (Recommended)
USB
< Back
Next >
Help
Finish
Cancel

4. When the next window appears, get the **blue USB cable** from the Quick Start Kit, then click **Next**.



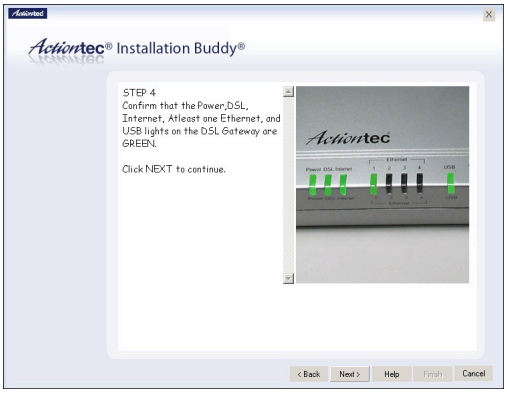
5. Plug one end of the **blue USB cable** into the **blue USB port** on the back of the Gateway, then click **Next**.


Actiontec
Actiontec® Installation Buddy®
STEP 2
Connect the square end of the Blue Cable into the Blue Port on the back of your Wireless DSL Gateway.
NOTE: If the Blue Port was not available, please hit the BACK button and select another method to connect to this Wireless DSL Gateway.
Click NEXT to continue.
Purple Port
Purple Cable
Purple Cable
< Back
Next >
Help
Finish
Cancel

6. Plug the other end of the **blue USB cable** into a **USB port** on the front or back of the computer, then click **Next**.

Actiontec
Actiontec® Installation Buddy®
STEP 3
Plug the thin, rectangular end of the Blue Cable into the USB Port located on the back of your computer. You will see several screens come and go. Once they have stopped, click NEXT to continue.
NOTE: The USB Port is shaped like a thin rectangle about 1/2 inch by 1/4 inch and may be horizontal or vertical.
Computer
Blue Cable
USB Port
Your Computer May Look Slightly Different
< Back
Next >
Help
Finish
Cancel

7. Make sure the **USB light** glows steadily green, then click **Next**.


Actiontec® Installation Buddy®
STEP 4
Confirm that the Power,DSL, Internet, Atleast one Ethernet, and USB lights on the DSL Gateway are GREEN.
Click NEXT to continue.
< Back
Next >
Help
Finish
Cancel

8. A series of congratulations windows appears. Click through them to exit the Installation Buddy.

Actiontec® Installation Buddy®
Did you know that with this new Wireless DSL Gateway, you can enable EVERY computer in your home to access the Internet?
The Wireless Home
Wireless DSL Gateway
< Back
Next >
Help
Finish
Cancel

Actiontec® Installation Buddy®
Congratulations!
You have successfully set up this computer to share high speed Internet access.
If you are using Windows 98 or Windows 98SE, you will need to reboot this computer before proceeding.
Make sure you insert this CD-ROM into the next computer that you want to have high speed Internet access.
Click FINISH.
< Back
Next >
Help
Finish
Cancel

The computer is connected to the Gateway via USB.

Wireless

To create a wireless network with the Gateway, see "Wireless Settings" on page 54 of this manual. After setting up a wireless network, consult the manual of the wireless adapter connected to the computer to connect to the Gateway's wireless network. Computers wirelessly connected to the Gateway must have wireless capabilities (via a PCI wireless adapter, USB wireless adapter, built-in wireless adapter, etc.).

Troubleshooting 8

This chapter contains a list of problems that may be encountered while using the Gateway, and techniques to solve them. Note that these techniques may not be successful in all cases. Also included is a list of frequently asked questions.

Troubleshooting

Cannot Use the Internet

Physical Connections

Ensure the Gateway's Power light is on, as well as the appropriate lights for any active connections (Ethernet, USB, Wireless). If the connection is not active, reconnect the appropriate cable or adapter.

Connection to the Router

Check that the default IP address the computer is receiving is correct by selecting **Start**, **Run**, typing **`cmd`** in the "Open" text box, and then typing **`ipconfig`**. The IP address should be 192.168.0.x (with "x" representing a number from 2 through 254), and the Default Gateway address should be 192.168.0.1. If not, restart the computer to allow the Gateway to assign a IP address. If a static IP address was previously assigned to the computer, it will need to be removed before the Gateway can dynamically assign a new IP address. After the computer restarts, check the IP address of the computer again. If it is still not correct, type **`ipconfig /?`** (note the space after **`ipconfig`**) to receive an explanation on how to release and renew the IP address.

Once the IP address has been verified as correct, open a Web browser. In the "Address" text box, type **`192.168.0.1`** and click **Go**. The Gateway's Web Configurator Main Menu screen appears, verifying the Gateway's active connection.

Connection to the Internet

To verify the Gateway's connection to the Internet, open a Web browser. In the "Address" text box, type `192.168.0.1` and click **Go**. The Gateway's Web Configurator Main Menu appears. Select **Status**, and once the "Status" screen appears, verify that "Connected" is displayed in the "WAN" section of the screen. If not, power cycle the Gateway by unplugging and then replugging the Power cord. After power cycling the Gateway, check the connection status again. If still disconnected, go to the Main Menu, select **Setup**, and go through a Basic Setup procedure, making sure to enter all correct selections for your connection. After saving all settings and restarting the Gateway, check the connection status again. If still disconnected, unplug the Gateway's Power cord and leave it unplugged for at least 10 minutes. Replug the Power cord, restart the Gateway, and check the connection again.

Frequently Asked Questions

This section contains a list of questions concerning the Gateway, and answers to the questions.

General

I have run out of Ethernet ports on my Gateway. How do I add more computers?

Plugging in an Ethernet hub or switch can expand the number of ports on the Gateway. Connect a standard Ethernet cable from the "Uplink" port of the new hub or switch to an Ethernet port on the Gateway, then connect additional computers to the Ethernet hub or switch.

Which protocols does the Gateway support?

The internal LAN connections support multiple protocols (e.g. TCP/IP, NetBEUI, IPX/SPX, and AppleTalk). The External WAN connection supports only TCP/IP.

Which connection speeds does the Gateway support?

The LAN connections on the Gateway support 10/100 Mbps. The WAN connection supports 8 Mbps because of the physical restrictions placed on broadband connections. The 802.11g wireless connection supports up to 54 Mbps connection speeds (depending on signal quality, environmental factors, and physical distance).

Will my Xbox work with the Gateway?

Yes, the Gateway is compatible with the Xbox. You will need to set a static IP on the Xbox in the Xbox live network settings, and forward ports 3074 (both UDP and TCP), 53 (both UDP and TCP), and 88 (UDP) if you run into DSL resolution errors.

Is the Gateway flash-upgradeable? How do I do it?

Yes, the firmware is upgradeable. You can find a link to the firmware site under "Utilities" in the Web-based configurator (see page 67).

Does the Gateway function as a DSL modem?

Yes, the Gateway has a built-in DSL Modem.

Wireless

Can I use an 802.11b wireless card to connect to the Gateway?

Yes, the Gateway can handle 802.11b cards or 802.11g cards. The 802.11g standard is backward compatible with the 802.11b standard. The Gateway can be setup to handle just "g" wireless cards, just "b" wireless cards, or both.

If I install several Gateways in different locations in my building, will they be able to talk to each other? Will I be able to stay connected as I move between them?

The Gateway does not communicate with other access points, since it is a single access point system. If you install several Gateway devices and move between coverage areas, your wireless device would actually have to reconnect to a separate network.

Which wireless cards will work with the Gateway?

The Gateway will connect with any wireless card supporting the 802.11g or 802.11b wireless standards.

Can my wireless signal pass through floors, walls, and glass?

The physical environment around the Gateway can have a varying effect on wireless signal strength and quality. The more dense an object, the greater the interference. Concrete or metal reinforced structures will cause a higher degree of signal loss than those made of wood, plaster, or glass.

I have an Apple computer that uses the Airport wireless device. Is this device compatible with the Gateway?

Yes, the Apple Airport system complies with the 802.11b and 802.11g standards. If you use the WEP security feature, refer to the Apple Airport documentation for information on the proper method to enter the WEP key for compatibility with the Gateway's hexadecimal WEP entry.

Network

I use my laptop at work and at home. Is there something special I need to do to make it work in both places?

Yes. You must reconfigure your network settings, including Workgroup, Domain, Password, User name, IP addressing, and any other specific settings used by your company. You may also use third-party software like NetSwitcher to automatically switch between different configurations.

What is the valid IP range I can use for my home network?

The valid IP range for the Gateway is 192.168.0.2 to 192.168.0.254 by default.

How do I find out which IP address my computer is using?

Windows 98, 98SE, and Me - Select **Start**, **Run**, and type **`winipcfg`**. Press **Enter**. When the "Winipcfg" window appears, ensure your network device is selected.

Windows NT, 2000, and XP - Select **Start**, **Run** and type **`cmd`**. Press **Enter**. When the command screen is displayed, type **`ipconfig`** and press **Enter**.

I used DHCP to configure my network. Do I need to restart my computer to refresh my IP address?

No. Select the appropriate operating system, below, and follow the steps to refresh your IP address.

Windows 98, 98SE, and Me - Go to **Start**, **Run**, type **`winipcfg`**, and press **Enter**. Ensure the Ethernet adapter is selected in the device box. Press the **Release_all** button, then press the **Renew_all** button.

Windows NT 4.0 and 2000 - Go to **Start**, **Run**, type **`cmd`**, and press **Enter**. At the DOS prompt type **`ipconfig /release`**, then type **`ipconfig /renew`**. (Note the space after **`ipconfig`**.)

Windows XP - Unplug the Ethernet cable or wireless card and plug it back in.

Can I run an application located on another computer over the network?

Yes, if the application is designed to run over a network.

Can I play games between computers on my network, or on the Internet?

Yes, if the games were designed for multi-player or LAN play. For specific information about whether a game is capable of Internet or LAN play, refer to the game documentation. Some games require ports to be forwarded to host or join games over the Internet.

I have an FTP or Web server on my network. How can I make it available to users on the Internet?

For a Web server, enable port forwarding for port 8080 to the IP address of the server and set up the Web server to receive on that port, as well. (Configuring the server for static IP address use is recommended.) For an FTP server, enable port forwarding for port 21 to the IP address of the server. (Configuring the server for static IP address use is recommended.)

Connections

How many computers can be connected through the Gateway?

The Gateway is capable of 253 connections, but having no more than 45 connections is recommended. As the number of connections increases, the available speed for each computer decreases.

Security

What is the default username for the Gateway?

The default username for the Gateway is **admin** (all lower case). To activate the password to protect the Gateway, change the default password, which is blank by default. Remote management is not available on the Gateway until the default password is changed.

Does the Gateway function as a firewall?

Yes. The Gateway provides its security through the use of a NAT and SPI (Stateful Packet Inspection) firewall, which acts as a physical barrier between your network and the Internet.

What is NAT and how does it protect my network?

NAT (Network Address Translation) is a type of security that masks the private IP addresses of the computers on your network with a single public IP address. With NAT, the private IP address of the computers on your network is never transmitted over the Internet.

Which Virtual Private Networking (VPN) protocols are supported?

The Gateway supports pass-through for PPTP, L2TP, and IPSec.

Can I use Internet firewall or security programs with my network?

Because the Gateway has firewall security, it is not necessary to use any other program for security. The use of third-party firewall or Internet security software is not recommended, since certain programs create problems on a private network (BlackIce Defender, Norton Internet Security, and ZoneAlarm, for example).

Reference

This appendix contains information about various topics, including accessing information about your Windows computer.

Locating Computer Information

The following procedure is valid for computers running Windows 98 SE, Me, NT 4.0, 2000, and XP.

1. From the desktop, right-click on **My Computer**.
2. Select **Properties** from the menu that appears.
3. When the "System Properties" window appears, select **General**. The version of the operating system, processor type, and amount of RAM installed in the computer are listed here.
4. Close the System Properties window.
5. From the desktop, double-click on **My Computer**.
6. Right-click the icon representing your hard disk. For example: Local Disk (C:). Some computers have multiple hard disks.
7. From the menu that appears, select **Properties**.
8. When the window appears, select **General**.
9. The free space value is the available space on the hard disk.
10. Close all windows.

Locating Windows Operating System Files

If the operating system files reside on the hard drive of the computer, follow the instructions below to locate them. If the files are not on the hard drive, they must be loaded from the installation disks.

Windows 98 SE

1. From the desktop, click **Start**.
2. When the menu appears, select **Find,** then **Files or Folders**.
3. When the "Find: All Files" window appears, select **Name & Location**.
4. In the "Named" text box, enter:
   ```
   *.cab
   ```
5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.
6. Click **Find Now**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \SYSTEM.
8. The Windows operating system files are located in this directory. Write down the directory path for future reference.
9. Close the Find: All Files window.

Windows Me, 2000

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.
3. **Windows Me:** The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
   ```
   *.cab
   ```
   Windows 2000: The "Search Results" window appears. In the "Search for files or folders named" text box, enter:
   ```
   i386
   ```

4. Click the **down arrow** next to the "Look in" text box and select **My Computer** from the list that appears.

5. Click **Search Now**.

6. **Windows Me:** When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \OPTIONS\INSTALL.

   Windows 2000: When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINNT \Driver Cache.

7. The Windows operating system files are located in this directory. Write down the directory path for future reference.

8. Close the Search Results window.

Windows NT 4.0

1. From the desktop, click **Start**.

2. When the menu appears, select **Find,** then **Files or Folders**.

3. When the "Find: All Files" window appears, select **Name & Location**.

4. In the "Named" text box, enter:

   ```
   i386
   ```

5. Click the **down arrow** next to the "Look In" text box and select **My Computer** from the list that appears.

6. Click **Find Now**.

7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\.

8. The Windows operating system files are located in this directory. Write down the directory path (followed by "i386") for future reference.

9. Close the Find: All Files window.

Windows XP

1. From the desktop, click **Start**.
2. Select **Search**, then **For Files and Folders**.
3. The "Search Results" window appears. In the panel at left titled "What do you want to search for?", click **All files and folders**.
4. Another panel, titled "Search by any or all of the criteria below" appears. In the "Look in" text box, click the **down arrow** and select **My Computer** from the menu that appears.
5. In the "All or part of the file name" text box, enter:
   ```
   i386
   ```
6. Click **Search**.
7. When the search is complete, note the directory path that appears most often in the "In Folder" column. For example: C:\WINDOWS \Driver Cache\.
8. The Windows operating system files are located in this directory. Write down the directory path (followed by "\i386") for future reference.
9. Close the Search Results window.

Setting Up Static IP on the Computer

b

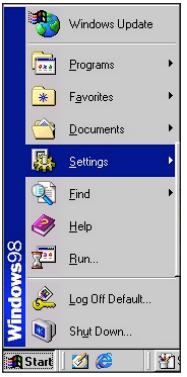
To communicate with the Gateway from a computer on the network (to use the Web Configuration Utility, for example), the user may have to switch the IP address settings from DHCP-enabled to static IP, so that the computer and the Gateway are on the same network subnet.

To set up static IP on a computer, select the operating system and follow the instructions.

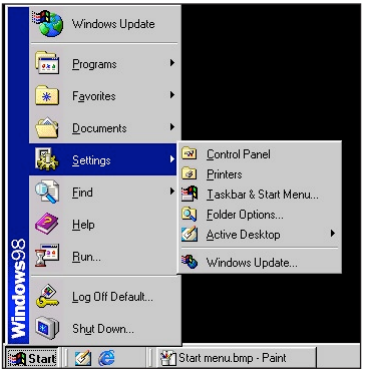
☞ ***Note***: The following procedures are based on the Gateway's factory default IP address. If the Gateway's IP address has been changed, enter the new IP address when instructed to enter an IP address.

Windows 98 SE

1. From the desktop, click on the **Start** button in the lower left corner.
2. From the menu that appears, select **Settings**.

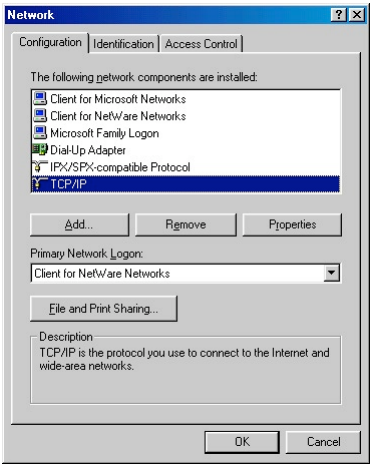


3. Another menu appears. Select **Control Panel**.

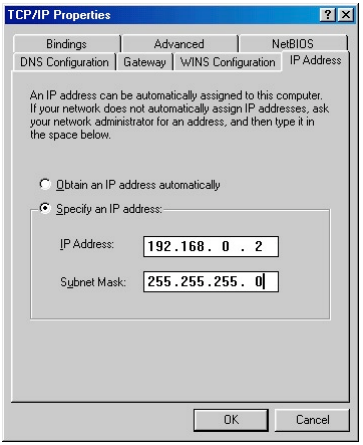


4. When the "Control Panel" window appears, double-click **Network**.

5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Select **IP Address**.



7. In the IP Address tab, make sure the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

9. Enter the following address in the "Subnet mask" text box:

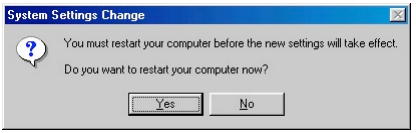
   `255.255.255.0`

   Enter the periods in the address by pressing the space bar on the keyboard.

10. Click **OK**. The TCP/IP Properties window disappears.

11. In the Network window, click **OK**. The Network window disappears.

12. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.

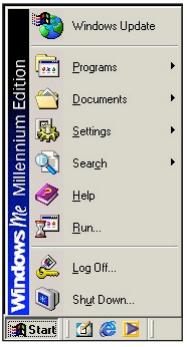

System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

The computer restarts. It is now set up with a static IP address, allowing access to the Gateway's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

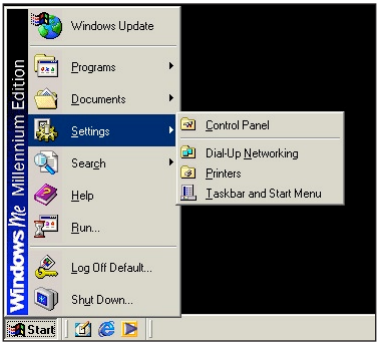
Windows Me

1. From the desktop, click on the **Start** button in the lower left corner.

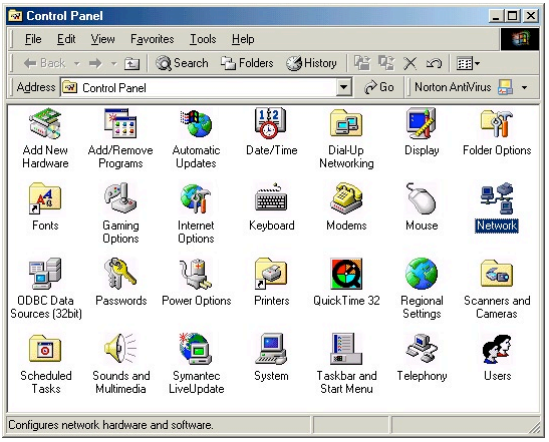
2. From the menu that appears, select **Settings**.



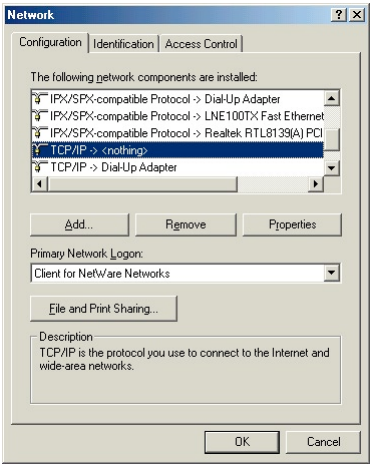
3. Another menu appears. Select **Control Panel**.



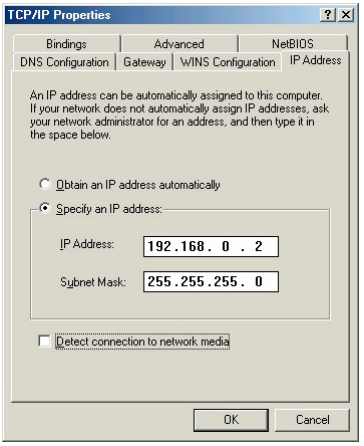
4. When the "Control Panel" window appears, double-click **Network**.



5. The "Network" window appears. In the "The following network components are installed" list box, locate and double-click **TCP/IP**.



6. The "TCP/IP Properties" window appears. Click **IP Address**.


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
192.168. 0 . 2
Subnet Mask:
255.255.255. 0
Detect connection to network media
OK
Cancel

7. In the IP Address tab, make sure the circle next to "Specify an IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

8. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

9. Enter the following address in the "Subnet mask" text box:

   `255.255.255.0`

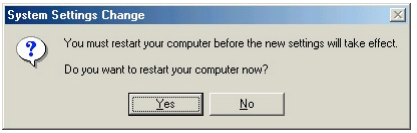
   Enter the periods in the address by pressing the space bar on the keyboard.

10. Click **OK**. The TCP/IP Properties window disappears.

11. If there is a check in the box next to "Detect connection to network media," click on it to uncheck the box.

12. In the Network window, click **OK**. The Network window disappears.

13. The "System Settings Change" window appears, asking whether the computer should be restarted. Click **Yes**.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

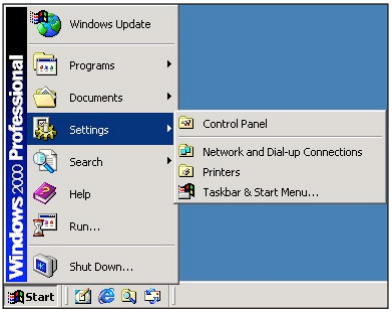
The computer restarts. It is now set up with a static IP address, allowing access to the Gateway's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

Windows 2000

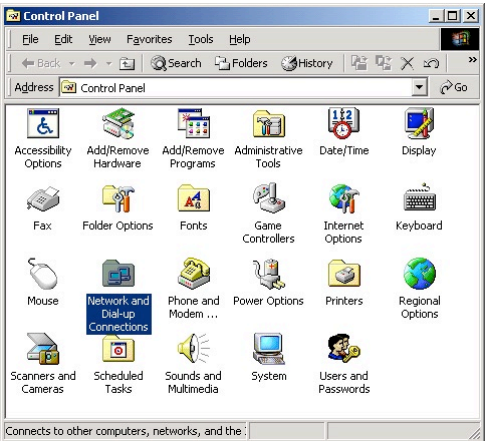
1. From the desktop, click on the **Start** button in the lower left corner.

2. From the menu that appears, select **Settings**.

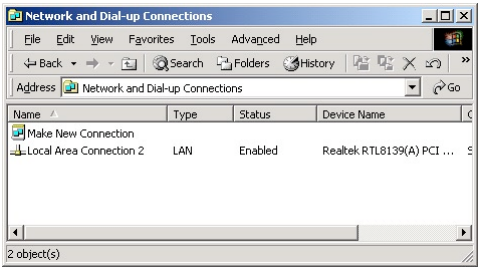
3. Another menu appears. Select **Control Panel**.



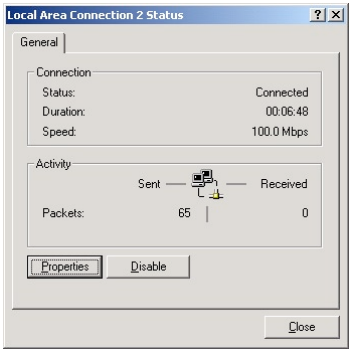
4. When the "Control Panel" window appears, double-click **Network and Dial-up Connections**.



5. In the "Network and Dial-up Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If more than one Local Area Connection is listed, locate the one that corresponds to the network card installed in the computer by finding the name of the network card in the **Device Name** column.

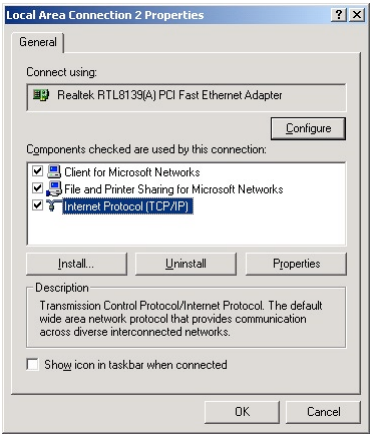

Network and Dial-up Connections
File Edit View Favorites Tools Advanced Help
Back Search Folders History
Address Network and Dial-up Connections
Go
Name Type Status Device Name
Make New Connection
Local Area Connection 2 LAN Enabled Realtek RTL8139(A) PCI ...
2 object(s)

6. The "Local Area Connection Status" window appears. Select **General**, then click **Properties**.

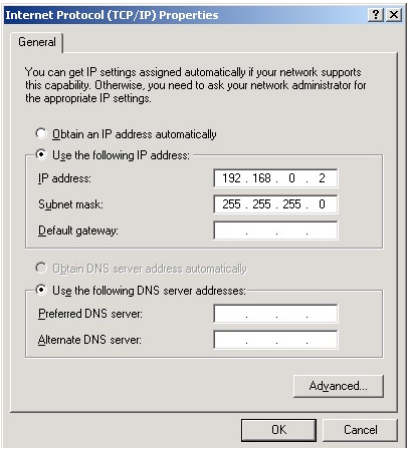


7. The "Local Area Connection Properties" window appears. Click **General**.

8. In the "Components checked are used by this connection" list box, double-click **Internet Protocol (TCP/IP)**.



9. The "Internet Protocol (TCP/IP) Properties" window appears.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

10. In the **General** tab, make sure the circle next to "Use the following IP Address " is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

11. Enter the following address in the "IP Address" text box:

`192.168.0.2`

Enter the periods in the address by pressing the space bar on the keyboard.

12. Enter the following address in the "Subnet mask" text box:

`255.255.255.0`

Enter the periods in the address by pressing the space bar on the keyboard.

13. Click **OK**. The "Internet Protocol (TCP/IP) Properties" window disappears.

14 In the "Local Area Connection Properties" window, click **OK**. The Local Area Connection Properties window disappears.

15. Click **Close** in the Local Area Connection Status window. The window disappears.

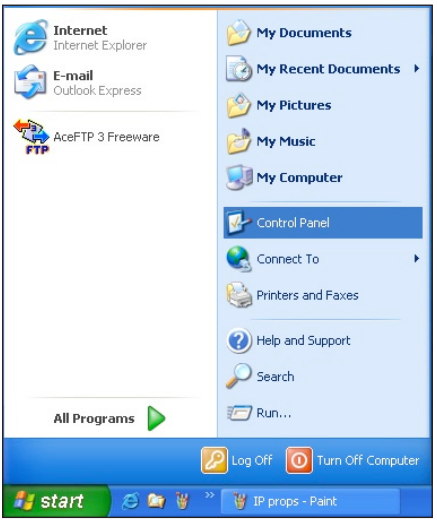
16. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

The computer restarts. It is now set up with a static IP address, allowing access to the Gateway's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

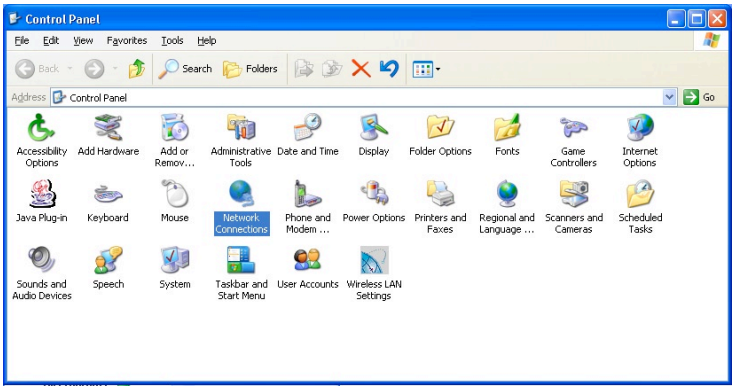
Windows XP

1. From the desktop, click **Start** button in the lower left corner.

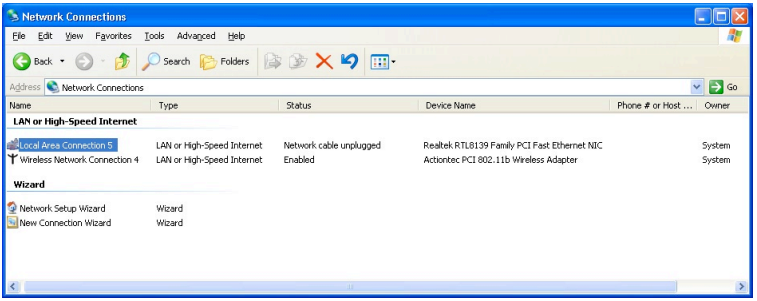
2. From the menu that appears, select **Control Panel**.



3. When the "Control Panel" window appears, double-click **Network Connections**.

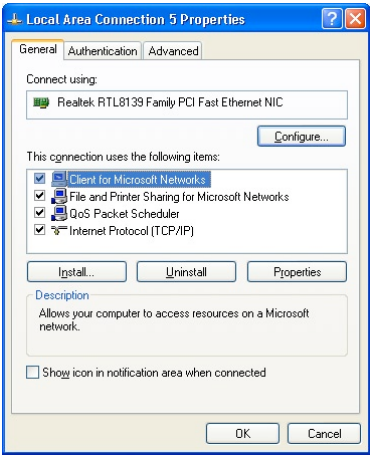


4. In the "Network Connections" window, double-click **Local Area Connection**. A number may be displayed after the Local Area Connection. If more than one Local Area Connection is listed, locate the one that corresponds to the network card installed in your computer by finding the name of the network card in the "Device Name" column.

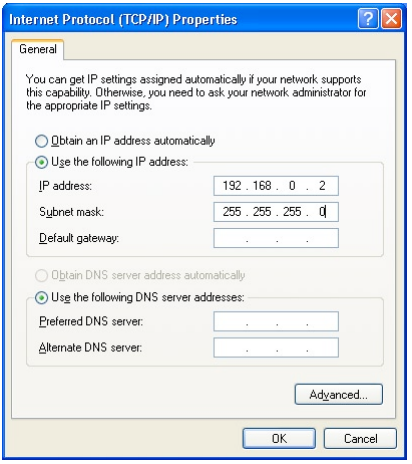


5. The "Local Area Connection Properties" window appears. Select **General**.

6. In the "This connection uses the following items" list box, double-click **Internet Protocol (TCP/IP)**.



7. The "Internet Protocol (TCP/IP) Properties" window appears.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

8. In the **General** tab, make sure the circle next to "Use the following IP Address" is selected. When active, a black dot appears in the circle. If the circle already contains a black dot, leave it alone.

9. Enter the following address in the "IP Address" text box:
   `192.168.0.2`
   Enter the periods in the address by pressing the space bar on the keyboard.

10. Enter the following address in the "Subnet mask" text box:
    `255.255.255.0`
    Enter the periods in the address by pressing the space bar on the keyboard.

11. Click **OK**. The Internet Protocol (TCP/IP) Properties window disappears.

12 In the Local Area Connection Properties window, click **Close**. The Local Area Connection Properties window disappears.

13. Click **Close** in the Local Area Connection Status window. The window disappears.

14. Close the Network and Dial-up Connections window by clicking on the "**x**" button at the upper right corner of the window.

The computer restarts. It is now set up with a static IP address, allowing access to the Gateway's Web Configurator utility (as shown in chapters 3, 4, 5, and 6).

Computer Security

The Internet is a giant network of computers located all over the world. When a computer is connected to the Internet, it can exchange information with any other computer on the Internet. This allows a computer user to send e-mail, surf the World Wide Web, download files, and buy products and services online, but it also makes the computer vulnerable to attack from persons intent on doing harm. Unless access to the computer is controlled, someone on the Internet can access the information on the computer and steal, damage, or destroy that information.

Actiontec recommends securing your computer from unwanted intrusion. Security is ultimately the end user's responsibility. Please secure your computer, and don't be a victim.

Comparing DSL Service with a Dial-Up Modem

With a dial-up modem, a computer user makes an Internet connection by dialing a telephone number, surfs the Internet for a period of time, and then disconnects the dial-up modem. No one on the Internet can access a computer not connected to the Internet.

Unlike a dial-up modem, DSL service is "always connected." The connection is always available – there is no need to dial a phone number to access the Internet. The computer can be connected to the Internet all the time.

With both types of Internet connections, access to the computer must be controlled to make sure someone on the Internet doesn't access the information on the computer. The longer the computer is connected to the Internet, the easier it is for someone on the Internet to find the computer and attempt to access it without permission. DSL service also provides fast Internet connections. This not only improves Internet performance, it also improves Internet performance for anyone attempting to access the computer.

Gateway Security

Be sure to provide the Gateway with an administrative password. If a password is not set, someone on the Internet can access the Gateway and change its configuration or steal information from your computers. For instructions on setting the password, see page 35.

Computer Security

To protect the valuable information on the computer, review the following topics. These topics cover software programs and operating system features affecting the security of the computer's data.

Anti-Virus Programs

The computer should have an anti-virus program, and the virus definitions should be updated on a regular basis – at least once a month.

E-Mail Attachments

Never run a program received as an attachment to an E-mail message unless the program is known to be safe. A program from an unknown source can delete all the files on the computer's hard disk or install a "back door" software application that lets people on the Internet gain access to the computer without permission.

Internet Browsers

Always exit the Internet browser (Internet Explorer or Mozilla Firefox, for example). Never "minimize" the browser or leave it open in the background. Breaking into a computer is easier when an Internet browser is running.

Network Applications

Network applications (such as software programs) that allow remote access to the computer also make the computer vulnerable to access from other people on the Internet. If using a network application that allows remote access, consider installing a firewall.

Electronic Security

Here are two methods to secure your computer electronically.

Network Address Translation

If a local area network and a PPP connection to the ISP using dynamic IP addresses through a DHCP server are being used, Network Address Translation (NAT) is being used. NAT provides a very basic level of security.

Firewalls

The safest way to prevent attacks on the computer is through a firewall – a hardware device or software program that protects the computer from unauthorized access by controlling who can access your computer and by monitoring the transmissions between the computer and the Internet

Windows XP has a built-in firewall. For more information, select **Help and Support Center** from the Help menu. Search for **Internet Connection Firewall**.

If Windows 98 SE, Me, NT 4.0, or 2000 is running on the computer, consider installing a firewall. Hardware and software firewall products are changing rapidly as more homes and businesses establish high-speed digital connections between their local area networks and the Internet.

This page left intentionally blank.

Specifications

d

General

Model Number

GT704-WG (54 Mbps Wireless DSL Gateway)

Standards

IEEE 802.3 (10BaseT)
IEEE 802.3u (100BaseTX)
IEEE 802.11g (Wireless)
G.dmt
G.lite
t1.413
RFC 1483, 2364, 2516

Protocol

LAN - CSMA/CD
WAN - PPP, DHCP, Static IP

WAN

Full-rate ADSL Interface

LAN

10/100 RJ-45 switched ports (4)
USB port

Speed

LAN Ethernet: 10/100 Mbps auto-sensing
Wireless: 802.11g 54 Mbps optimal (see "Wireless Operating Range" for details)

Cabling Type

Ethernet 10BaseT: UTP/STP Category 3 or 5
Ethernet100BaseTX: UTP/STP Category 5
USB

Wireless Operating Range

Indoors

Up to 91 M (300 ft.)

Outdoors

Up to 533 M (1750 ft.)

Topology

Star (Ethernet)

LED Indicators

Power, DSL, Internet, Ethernet (4), USB, Wireless

Environmental

Power

External, 12V DC, 600mA

Certifications

FCC Class B, FCC Class C (part 15, 68), CE Mark Commercial, UL

Operating Temperature

0º C to 40º C (32º F to 104º F)

Storage Temperature

-20º C to 70º C (-4º F to 158º F)

Operating Humidity

10% to 85% (non-condensing)

Storage Humidity

5% to 90% (non-condensing)

Note: Specifications are subject to change without notice.

Glossary

Access Point

A device that allows wireless clients to connect to one another. An access point can also act as a bridge between wireless clients and a "wired" network, such as an Ethernet network. Wireless clients can be moved anywhere within the coverage area of the access point and remain connected to the network. If connected to an Ethernet network, the access point monitors Ethernet traffic and forwards appropriate Ethernet messages to the wireless network, while also monitoring wireless traffic and forwarding wireless client messages to the Ethernet network.

ATM (Asynchronous Transfer Mode)

A networking technology based on transferring data in fixed-size cells.

Client

A desktop or mobile computer connected to a network.

DHCP (Dynamic Host Configuration Protocol)

A protocol designed to automatically assign an IP address to every computer on the network.

DNS (Domain Name System) Server Address

Allows Internet host computers to have a domain name and one or more IP addresses. A DNS server keeps a database of host computers and their respective domain names and IP addresses so that when a user enters a domain name into a Web browser, the user is sent to the proper IP address. The DNS server address used by computers on the home network corresponds to the location of the DNS server the ISP has assigned.

DSL (Digital Subscriber Line) Modem

A modem that uses existing phone lines to transmit data at high speeds.

Encryption

A method to provide wireless data transmissions a level of security.

ESSID (Extended Service Set Identifier)

A unique identifier for a wireless network. Also known as "SSID."

Ethernet Network

A standard wired networking configuration using cables and hubs.

Firewall

A method preventing users outside the network from accessing and/or damaging files or computers on the network.

Gateway

A central device that manages the data traffic of the network, as well as data traffic to and from the Internet.

IP (Internet Protocol) Address

A series of four numbers separated by periods identifying a unique Internet computer host.

ISP Gateway Address

An IP address for the Internet router. This address is only required when using a cable or DSL modem.

ISP (Internet Service Provider)

A business that allows individuals or businesses to connect to the Internet.

LAN (Local Area Network)

A group of computers and devices connected together in a relatively small area (such as a house or an office). A home network is considered a LAN.

MAC (Media Access Control) Address

The unique hardware address of a device connected to a network.

NAT (Network Address Translation)

A method allowing all of the computers on a home network to use one IP address, enabling access to the Internet from any computer on the home network without having to purchase more IP addresses from the ISP.

PC Card

An adapter that inserts in the PCMCIA slot of a computer, enabling the communication with a device.

PPPoE (Point-To-Point Protocol over Ethernet)/ PPPoA (Point-To-Point Protocol over ATM)

Methods of secure data transmission.

Router

A central device that manages the data traffic of the network.

Subnet Mask

A set of four numbers configured like an IP address used to create IP address numbers used only within a particular network.

SSID

See "ESSID."

TCP/IP (Transmission Control Protocol/Internet Protocol)

The standard protocol for data transmission over the Internet.

WAN (Wide Area Network)

A network that connects computers located in separate areas, (i.e., different buildings, cities, countries). The Internet is a WAN.

WiFi Alliance (Wireless Fidelity Alliance)

An industry group that certifies cross-vender interoperability and compatibility of IEEE 802.11b/g wireless networking products and promotes the standard for enterprise, small business, and home environments.

WLAN (Wireless Local Area Network)

A group of computers and other devices connected wirelessly in a small area.

This page left intentionally blank.

Non-Windows System Setup

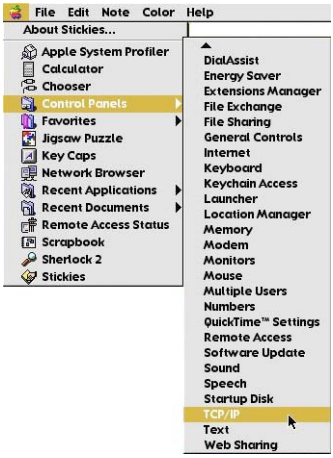
The Gateway supports both the Classic Macintosh operating systems (9.2.2 and below), as well as OS X.

☞ ***Note***: When installing any software, consult the user manual and help files supplied with the software for detailed information. Actiontec provides the following information as a guideline only.

Classic

To configure the Gateway, Open Transport 2.5.2 or above must be loaded on the computer.

1. Click **Apple, Control Panels**, then **TCP/IP**.



2. When the "TCP/IP" window appears, select **Edit** from menu bar, then select **User Mode**.

3. When the "User Mode" window appears, select **Advanced**, then click **OK**.

4. In the "TCP/IP" window, select **Ethernet** from the "Connect via" drop-down list.

5. Select **Using DHCP Server** from the "Configure" drop-down list.

6. Ensure the "Use 802.3" option is **not** checked.

7. Disregard any addresses in the IP Address text boxes. They will be reacquired when the first connection is made.

8. Click **Options** and when the "TCP/IP Options" window appears, select **Active**. Ensure the "Load only when needed" option is **not** checked, then click **OK**.

9. Close the "TCP/IP" window and when prompted to save changes, click **Save**.

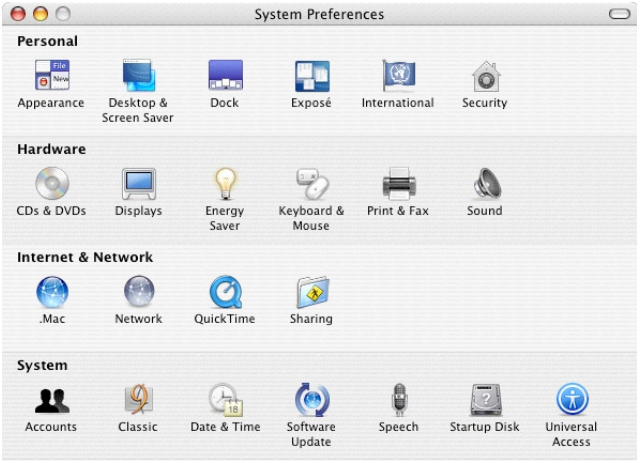
10. Restart the computer. The TCP/IP settings are configured.

To finish setting up the computer to connect with the Gateway, follow the instructions in chapter 3, "Performing a Basic Setup," on page 33.

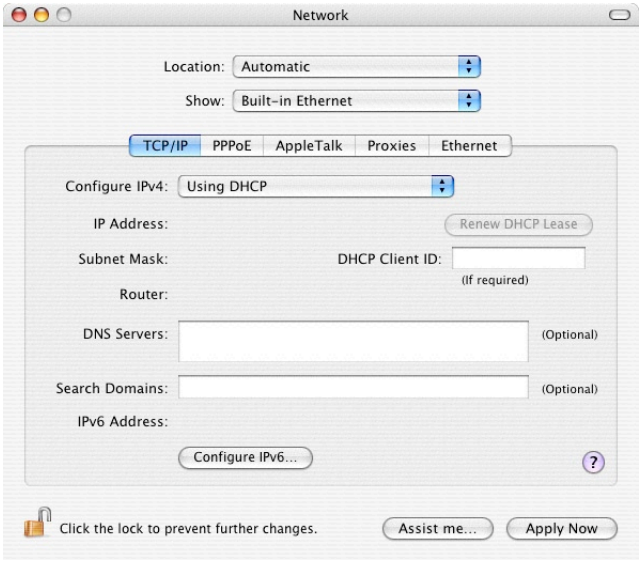
OS X

1. From the Apple Menu, select **System Preferences**.

2. When the "System Preferences" window appears, click **Network**.



3. The Network window appears. Select **Built-In Ethernet** from the "Show" drop-down list.



4. Select **TCP/IP** and, from the "Configure" drop-down list, select **Using DHCP**.

5. Click **Apply Now** and close the "System Preferences" application. The TCP/IP settings are configured.

To finish setting up the computer to connect with the Gateway, follow the instructions in chapter 3, "Performing a Basic Setup," on page 33.

Notices

Regulatory Compliance Notices

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by implementing one or more of the following measures:

- Reorient or relocate the receiving antenna;
- Increase the separation between the equipment and receiver;
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected;
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Actiontec Electronics, Inc., may void the user's authority to operate the equipment.

Declaration of conformity for products marked with the FCC logo – United States only.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;

2. This device must accept any interference received, including interference that may cause unwanted operation.

☞ ***Note***: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

For questions regarding your product or the FCC declaration, contact:

Actiontec Electronics, Inc.
760 North Mary Ave.
Sunnyvale, CA 94086
United States
Tel: (408) 752-7700
Fax: (408) 541-9005

Miscellaneous Legal Notices

© 2005 Actiontec Electronics, Inc. Actiontec Installation Buddy, Connection 1-2-3, Solutions for the Digital Life, Actiontec Digital Gear, and the Actiontec logo are trademarks or registered trademarks of Actiontec Electronics, Inc.

All other names are the property of their respective owners.

Limited Warranty

Hardware: Actiontec Electronics, Inc., warrants to the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for twelve (12) months from the date of purchase from Actiontec Electronics or its authorized reseller.

Actiontec Electronics' sole obligation under this express warranty shall be, at Actiontec's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, Actiontec Electronics may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of Actiontec Electronics, Inc. Replacement products may be new or reconditioned. Actiontec Electronics warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

Software: Actiontec Electronics warrants to Customer that each software program licensed from it will perform in substantial conformance to its program specifications, for a period of ninety (90) days from the date of purchase from Actiontec Electronics or its authorized reseller. Actiontec Electronics warrants the media containing software against failure during the warranty period. The only updates that will be provided are at the sole discretion of Actiontec Electronics and will only be available for download at the Actiontec Web site, www.actiontec.com. Actiontec Electronics' sole obligation under this express warranty shall be, at Actiontec Electronics' option and expense, to refund the purchase price paid by Customer for any defective software product, or to replace any defective media with software which substantially conforms to applicable Actiontec Electronics published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. Actiontec Electronics makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third-party products listed in the Actiontec Electronics software product documentation or specifications as being compatible, Actiontec Electronics will make reasonable efforts to provide compatibility, except where the non-compatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with Actiontec Electronics published specifications or user guide.

THIS ACTIONTEC ELECTRONICS PRODUCT MAY INCLUDE OR BE BUNDLED WITH THIRD-PARTY SOFTWARE, THE USE OF WHICH IS GOVERNED BY A SEPARATE END-USER LICENSE AGREEMENT.

THIS ACTIONTEC ELECTRONICS WARRANTY DOES NOT APPLY TO SUCH THIRD-PARTY SOFTWARE. FOR THE APPLICABLE WARRANTY, PLEASE REFER TO THE END-USER LICENSE AGREEMENT GOVERNING THE USE OF SUCH SOFTWARE.

Obtaining Warranty Service: Customer may contact Actiontec Electronics Technical Support Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from Actiontec Electronics or its authorized reseller may be required. Products returned to Actiontec Electronics must be pre-authorized by Actiontec Electronics with a Return Merchandise Authorization (RMA) number marked on the outside of the package, and sent prepaid and packaged appropriately for safe shipment, and it is recommended that they be insured or sent by a method that provides for tracking of the package. The repaired or replaced item will be shipped to Customer, at Actiontec Electronics' expense, not later than thirty (30) days after Actiontec Electronics receives the defective product.

Return the product to:
(In the United States)
Actiontec Electronics, Inc.
760 North Mary Avenue
Sunnyvale, CA 94086

Actiontec Electronics shall not be responsible for any software, firmware, information, memory data, or Customer data contained in, stored on, or integrated with any products returned to Actiontec Electronics for repair, whether under warranty or not.

WARRANTIES EXCLUSIVE: IF AN ACTIONTEC ELECTRONICS' PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, CUSTOMER'S SOLE REMEDY FOR BREACH OF THAT WARRANTY SHALL BE REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT ACTIONTEC ELECTRONICS' OPTION. TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, TERMS OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, AND NON-INFRINGEMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. ACTIONTEC ELECTRONICS NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR

IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE OR USE OF ITS PRODUCTS.

ACTIONTEC ELECTRONICS SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT OR MALFUNCTION IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLECT, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPT TO OPEN, REPAIR OR MODIFY THE PRODUCT, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OTHER HAZARDS, OR ACTS OF GOD.

LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW, ACTIONTEC ELECTRONICS ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCT, EVEN IF ACTIONTEC ELECTRONICS OR ITS AUTHORIZED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT ACTIONTEC ELECTRONICS' OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Disclaimer: Some countries, states or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers, or the limitation of liability for personal injury, so the above limitations and exclusions may be limited in their application to you. When the implied warranties are not allowed to be excluded in their entirety, they will be limited to the duration of the applicable written warranty. This warranty gives you specific legal rights which may vary depending on local law.

Dispute Resolution: The customer may contact the Director of Technical Support in the event the Customer is not satisfied with Actiontec Electronics' response to the complaint. In the event that the Customer is still not satisfied with the response of the Director of Technical Support, the Customer is instructed to contact the Director of Marketing. In the event that the Customer is still not satisfied with the response of the Director of Marketing, the Customer is instructed to contact the Chief Financial Officer and/or President.

Governing Law: This Limited Warranty shall be governed by the laws of the State of California, U.S.A., excluding its conflicts of laws and principles, and excluding the United Nations Convention on Contracts for the International Sale of Goods.